Graduate Research

Doctor of Philosophy (PhD)
Master of Philosophy (MPhil)

monash.edu/it/research-degrees
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I love doing research. After my PhD, I hope to continue to be a research fellow at Monash. It has one of the best campus environments and, more importantly, Monash IT is a strong research community where we inspire and motivate each other.

My research is in data science, developing new data mining and machine learning techniques for large time series data. Data is growing at an exponential rate and almost everything in our life now and in the future can be digitised and converted into data. Analysing data and making sense of it will have a great impact on improving our future. The latest Earth Observation missions will produce trillions of time series from satellite images that can be used for yield forecasting, developing fire spread models, city pollution models and more. Unfortunately, current research in time series classification lags behind this demand for data. My research aims to develop scalable algorithms for time series classification so that it is feasible for future applications where the database is large. My recent work has shown to speed up the current state of the art by 1000 times.

Chang Wei Tan
PhD student
Monash is Australia’s largest university and is ranked among the world’s most prestigious universities. Our global reputation ensures you’re recognised for your skills and talent – no matter where in the world you choose to pursue your dreams and ambitions.

As a member of the Group of Eight, an alliance of leading Australian universities, we are recognised for our excellence in teaching, research and graduate outcomes.

Monash is a research-intensive university with world leading facilities and research centres. Our research focuses on meeting the needs of industry and society today and tomorrow. We’re in the business of discovering how IT can help meet the key global challenges of the 21st century.

Monash Information Technology has a strong reputation for excellence in research. We have five main areas of research in the fields of data science, cybersecurity and systems, computer human interaction and creativity, organisational and social informatics and digital health. Our research supervisors are leading experts in their fields and inspire IT PhD researchers to excel. At the forefront of industry and community engagement, our research projects find ways for IT to better support and promote health and medicine, productivity and innovation, and social inclusion.

If you’re passionate about tackling global challenges and collaborating with some of the brightest minds in your discipline area, then Monash is the place where your ideas and actions can gain momentum.
A Global Outlook

Campus locations
Caulfield and Clayton, Australia
Kuala Lumpur, Malaysia.
Prato, Italy.
Mumbai, India.

Internships
with global organisations such as Adobe, IBM and Aurecon.

Collaborating universities
Southeast University, Suzhou, China.
University of Warwick, UK.

Connect
With 70,000 students and 310,000 alumni from more than 170 countries, Monash is Australia’s largest university.

Industry connections
We maintain many successful partnerships with industry, governments, communities and professional associations. These connections provide opportunities for graduate researchers to engage within the industry, to strengthen and deepen their research.

Graduate Research Industry Partnerships (GRIPs) bring together researchers and academics from various fields with partners from business, government and community. These partnerships focus on some of the most interesting, challenging and important issues facing the planet, with the aim of solving real-world problems and driving innovation.

Our connection with Monash Institute of Medical Engineering (MIME) provides the opportunity to work in multidisciplinary teams to carry out world-leading research towards an IT PhD degree. You can be involved in projects to create medical engineering technologies that can be developed by commercial and industry collaborators to improve the delivery of health care.

Global collaboration
At Monash University we believe the education experience is extended through collaboration, challenging the status quo and traversing unchartered territory.

As a global university with a presence on four continents, you have access to more international secondments, internships and collaborative research programs. We work with institutions around the world, and have connections with Southeast University in Suzhou, China, the University of Warwick, UK, and the IITB Mumbai, India.

The IT graduate research program attracts high-achieving students from all over the world. International students comprise one-third of our current group of students at Monash, and with a rich global alumni community your international network could last a lifetime.

Globally connected, our alumni are at the forefront of social and technological progress at many of the world’s best companies.
Nader Chmait submitted his PhD in artificial intelligence (AI) at Monash in 2017. His research is on understanding and measuring collective intelligence across different cognitive systems: human, animal and machine. After completing his PhD, Nader has taken up roles as a postdoctoral research fellow and a data scientist at Tennis Australia.
You possess the passion and determination required to complete a significant research project, and the ambition to apply your expertise throughout your career.

Our Monash IT graduate research degree provides the opportunity to work within a world-class research environment with expert guidance, scholarships, professional development, leading facilities and a global network that will extend your reach.

Our research supervisors are leaders in data science, cybersecurity, swarm robotics, social informatics and intelligent systems.

Our innovative research facilities include an immersive hybrid 2D and 3D virtual reality environment, and an interdisciplinary sensiLab focusing on human-computer interaction and digital fabrication. We also have leading research centres for Data Science Cybersecurity and Organisational and Social Informatics.

Complete your PhD in a program that amplifies your research with advanced training to equip you with the knowledge, competency and abilities needed to:

• complete your research project with excellence;
• develop a broad range of skills and professional attributes, and;
• make an impact in academia, industry, government or community after graduation.

Be prepared for life after a PhD with professional skills and training in areas such as communication, project management, research commercialisation and teaching in higher education.

Join us as a graduate researcher and you can be in a forward-thinking IT faculty, working within a creative and supportive environment.

monash.edu/it/research-degrees

This is a PhD designed to prepare you with the capabilities sought by employers, giving you a head start in an evolving employment market. Leaders from the world’s most successful companies consistently rate Monash as a preferred university from which to hire graduates.”

SCHOLARSHIPS AND SUPPORT

Ying Xu is a current PhD student conducting research to automate the process of drug development, focusing on personalised drugs that are designed based on an individual’s gene information. In 2016, Ying was awarded an ACS scholarship to undertake an internship with IBM.
Scholarships and support
We’re committed to attracting academic high achievers and producing internationally competitive graduates. Monash invests more than $47 million annually on graduate research scholarships. It’s this investment in ideas and people that will change the world – and it covers more than the cost of study.

We want to help you make your mark on the world, which is why we offer a variety of scholarships to support your research degree. These scholarships can assist you with tuition fees and living expenses.

The types of scholarships awarded range from priority research projects, to those for women undertaking research, and innovation partnerships with industry.

• Monash Graduate Scholarships (MGS)
• Monash International Tuition Scholarships
• Faculty of Information Technology Scholarships
• Monash Institute of Medical Engineering (MIME) Scholarships
• Graduate Research Interdisciplinary Program (GRiP) Scholarships
• Data61 Scholarships
• External and industry-funded Scholarships

Monash runs four central scholarship rounds for research degrees each year: two for international students with application closing dates of 31 March and 31 August, and two rounds for domestic students with application closing dates of 31 May and 31 October. For more information about scholarships, visit monash.edu/it/research-scholarships

Financial support
In addition to scholarships, Monash IT allocates funding to support all PhD and Master of Philosophy (MPhil) students enrolled at Australian campuses. Students studying in Australia receive A$4000 for PhD and A$2000 for MPhil for the duration of the candidature. These funds can be used for travel, fieldwork and data collection, specialised training and equipment to support conducting your research.

The faculty also pays the cost of overseas health cover for our international graduate research students for the length of their visa while studying in Australia.

Support services
At Monash, it’s not just about the course. You’re at the centre of everything we do. We offer you careers counselling, professional development opportunities and wellbeing services. You can also take advantage of the academic support services and modern study facilities designed specifically for graduate students.

• Graduate Student Academic Services (GSAS)
• Career guidance
• Monash Connect
• Monash Postgraduate Association (MPA)
• e-Research services
• Dedicated graduate learning spaces
• Family support
• Monash sport
• Wellbeing hub (medical practitioners, wellbeing counsellors, student advisors)
• Disability support services
• On-campus accommodation

monash.edu/study/life

SCHOLARSHIP-FUNDED PHD RESEARCH PROJECTS
Monash IT offers a range of exciting, scholarship-funded PhD research projects available in our priority research areas. Recent projects include:

Understanding the Evolution of Earth from Space
With the second satellite of the Sentinel-2 mission launched in 2017, there’s an incredible opportunity for the right student to become the world leader on how to analyse and make sense of this vast amount of data. It’s anticipated that the project will contribute to the theory of machine learning, with applications to the study of vegetation in general and, more specifically, in agriculture.

Innovative Use of Contemporary Games Technologies
Computer game experiences have changed dramatically with developments in the associated technologies. Experiences have become more immersive. The development of more sophisticated algorithms and complex problem-solving techniques has meant that more “intelligent” systems can be created for the user to interact with. This opens possibilities for not only more advanced gaming experiences, but also the opportunity to create experiences outside of traditional gaming contexts.

For more information, visit monash.edu/it/research-scholarships-phd-projects
GLOBAL RESEARCH COMMUNITY AND NETWORKS

Academic and professional networks are central to your success as a graduate researcher. The sheer size and depth of our graduate research program is underpinned by local and international partnerships with industry, governments, communities, professional associations and other universities.

These partnerships give you direct access to a global network that can improve the reach and relevance of your research.

Build connections with industry
We engage with a broad group of industry partners, including large corporations, non-profit organisations and small to medium enterprises, in order to solve problems and develop collaborative research projects.

As a graduate researcher, you could find yourself working within the health sector, technology, finance, resources, transport or any number of other areas depending on the kind of opportunities you seek.

There are many opportunities for PhD students to build connections with industry partners and showcase their research. Events such as the annual Innovation Showcase and 3 Minute Thesis competition provide a platform to demonstrate to industry the importance and impact of your research.

Professional development and internships
Completing an internship while working on your PhD can enhance your research, help you build networks and develop skills. We enable you to take up internship opportunities, and we partner with AMSI Intern to ensure internships are simple, effective and rewarding for everyone involved.

Our graduate students have had access to intern opportunities and worked with global organisations such as IBM, CSIRO, Google, Telstra and Amazon.

Active student community
Our current IT graduate research student community has more than 170 people from 29 countries. We respect and support each other, and we also celebrate each others’ cultures and perspectives. We’re an engaged international community with a spirit of collaboration, collegiality and friendship.

Monash IT has well-established and supportive networks to assist graduate research students, including the IT Graduate Research Student Committee and our Women Graduate Researchers in IT Network, and a bi-annual graduate students’ research retreat. They provide opportunities to develop academic and professional skills, and to build your social and academic networks.

PhD graduate Misita Anwar (left) and current PhD students Tenindra Abeywickrama (top right) and Syed Ali Naqi Gilani (bottom right) present their research to industry partners at the Innovation Showcase event.
RESEARCH SUPERVISORS

Be mentored by expert supervisors.
At the core of your PhD research is the relationship with your supervisors. Monash invests in research excellence by ensuring you’re mentored by actively engaged researchers who are leaders in their field.

Supervisors are provided with ongoing professional development opportunities that build contemporary supervisory knowledge and skills, and your main supervisor is certified as appropriately trained to mentor you and your specific project.

It’s important to find a suitable supervisor who will mentor and support your research project. To search our database of Monash researchers, visit monash.edu/it/research-supervisors

Our research supervisors are at the heart of everything we do. They welcome people who question the answers, strive for excellence, and are committed to solving the greatest challenges of the age.

Professor Jon Whittle is a world-renowned expert in software engineering and human-computer interaction, with a particular interest in IT for social good. He’s an experienced research leader, having been the principal investigator of projects totalling more than $A16 million. With Jon’s leadership, Monash Information Technology is building a world-leading research team on society-oriented software design.

Professor Jon Whittle
Dean, Faculty of Information Technology

Associate Professor Gillian Oliver is a research supervisor and the Director of the Centre for Organisational and Social Informatics (COSI). Gillian will be supervising two new projects in Recordkeeping Informatics for a Networked Age, and the outcomes from both projects will also contribute to the Archives and the Rights of the Child research program.

Associate Professor Gillian Oliver
Director, Centre for Organisational and Social Informatics (COSI)
Professor Geoff Webb is a leading data scientist who works in the field of machine learning, data mining, data analytics and user modelling. Professor Webb was awarded a 2017 Australian Museum Eureka Prize for Excellence in Data Science for his work using algorithms to obtain insights from ambulance call-out data to address the pervasive problem of male mental illness and suicide across Australia. The outcomes of this work will inform government policy, training and resourcing. Geoff has also received the 2016 Australian Computer Society’s ICT Researcher of the Year Award and the 2016 Australasian Artificial Intelligence Distinguished Research Contributions Award.

Professor Geoff Webb
Director, Centre for Data Science
A PhD involves the student and supervisor having a shared interest in finding out something new. That goal is something you want to inspire the student towards. Good students inspire you as well because they are always coming up with something that challenges you. One of my roles is to help students to remain engaged in the project over the three years. You can’t force motivation. You have to inspire people to want to work in the project.”

Professor Jon McCormack, an electronic media artist, theorist and computer science researcher, works with computer code as a medium for creative expression. His research involves developing forms of creativity through technology. In 2017, an ARC Future Fellowship grant was awarded to Jon for a project, Generative Materialism: advancing design of the digital and physical.

Professor Jon McCormack
Director, sensiLab
I owe my success mainly to the people who have guided and mentored me in my journey. I consider myself very lucky to have started my career at Monash’s Faculty of IT, which has outstanding initiatives in place for the advancement of early-career researchers — seed grants for research projects, waived tuition fees for PhD students, grant writing and other workshops related to leadership, supervision and building a successful academic career. Senior researchers are also encouraged to co-supervise and co-write grant applications. I truly believe that my faculty is the most collegial, friendly and inspiring place to work.”
A prominent researcher in the field of big-data analytics, Dr Francois Petitjean has received recognition for his work through the Australian Research Council, DECRA, and is a recipient of a Victorian Young Achiever Award, an IBM Faculty Award, the Dean’s Award for Excellence in Research Impact and also for Excellence in Research by an Early Career Researcher.

Dr Francois Petitjean
Lecturer, Centre for Data Science
Monash is the only university in Australia’s prestigious Group of Eight to have a dedicated Faculty of Information Technology.

Our researchers are passionate about the potential for technology to positively disrupt our world.

Monash IT is home to some of the world’s leading experts in areas such as data science, cybersecurity, organisational and social informatics, and intelligent systems. They’re at the forefront of international collaborations that are tackling today’s most pressing issues and opportunities, across all facets of society. We’re also fostering a number of interdisciplinary initiatives, such as our Immersive Analytics group and our innovation hub, sensiLab, in order to foster agile, collaborative work broadly focused on the intersection of visualisation, immersive interaction and digital fabrication.

Join us as a graduate researcher and you, too, can be at the cutting edge, working within a creative and supportive environment as you build your knowledge and skills. We engage with a broad group of industry partners, from the biggest corporations to non-profit organisations and small to medium enterprises, in order to solve problems and develop co-operative research projects.

Research supervisor Professor Maria Garcia de la Banda in the CAVE2™, a next generation immersive hybrid 2D and 3D virtual reality environment.
RESEARCH AREAS

Our researchers support each other to excel in their field. To bring the right people together, our faculty is organised into five main areas of research.

**Data Science**
In the information age, data is ubiquitous. Data science extracts value from data assets. It helps to understand the past, better manage the present, and effectively plan for the future. It provides evidence-based approaches to decision support. It plays a critical role in advanced industry, commerce, governance and research.

**Cybersecurity and Systems**
This group conducts research into innovative data management, storage and indexing techniques, and how to keep data secure in the rapidly changing and increasing online data ecosphere.

**Computer Human Interaction and Creativity**
Research in this group explores the future of human-computer interaction and how new interaction and visualisation technologies, such as augmented reality and virtual reality, can support collaborative decision-making and data analytics.

**Organisational and Social Informatics**
Organisational and Social Informatics contributes to the development of individuals, organisations and society through research on human-centred design and deployment of information and communication technologies (ICT). Understanding the social, cultural, community and organisational settings of ICT use is critical if the potential benefits from ICT systems are to be realised.

**Digital Health**
Monash IT researchers are engaged in a broad spectrum of socio-technical projects that address issues in patient-doctor interaction, optimal treatment decisions, patient-centred health monitoring, and the creation of trustworthy data sharing and integration across health care systems and organisations.

RESEARCH FACILITIES

Monash Information Technology is underpinned by our innovative research centres and facilities.

- sensiLab
- Cybersecurity Lab
- CAVE2
- Swarm Robotics Lab

To learn more about our research, visit monash.edu/it/our-research
Bayesian Argumentation via Delphi (BARD)

BARD, an example of our global collaboration, is a consortium led by Monash that includes researchers at Birkbeck College, University of London, University College London and University of Strathclyde in Scotland.

This five-year project involves researching and designing means of interacting with Bayesian networks, including new means of assessing their potential in causal explanations. The project is led by internationally renowned Bayesian networks researcher and graduate student supervisor Professor Ann Nicholson.

In collaboration with fellow BARD research academic Dr Kevin Korb, Ann recently received A$18 million funding under the US government’s Intelligence Advanced Research Projects Activity (IARPA) CREATE program to advance intelligence analysis.

Monash Energy Materials and Systems Institute (MEMSI)

MEMSI is dedicated to undertaking research and development that will lead to the creation of innovative products and services for deployment in the energy sector across the globe. A vibrant interdisciplinary research environment, MEMSI brings together more than 80 leading researchers in world-leading research facilities.

Monash University researchers and industry partners are working together to solve critical real-world challenges. They’re focused on developing solutions to enable sustainable generation, storage, distribution, visualisation and end use of energy.

Monash is currently applying these broad approaches towards developing aggregation models of electricity networks with integrated mobile apps, geospatially predicting battery viability for residential households, forecasting electricity demand for AEMO, and electrification of rural communities in Indonesia.
PROTIC project with Oxfam

PROTIC (Participatory Research and Ownership with Technology, Information and Change) is a five-year international development project. Researchers from Monash IT are working with Oxfam Bangladesh and rural Bangladeshi farmers to develop current, accurate and trustworthy interactive information services, primarily via mobile technologies for use by women in agriculture.

Provati Rani is a farmer from Bangladesh and a participant in the PROTIC project which aims to empower female farmers. An internet enabled phone allows her to search for the best ways to make worm compost, which she now sells to other local farmers and contributes financially to her family.

Photographed by Fahad Kaizer
DOCTOR OF PHILOSOPHY (PHD)

The Doctor of Philosophy (PhD) degree is a supervised program that involves a major research project on a topic of personal interest.

To be awarded this degree, external examiners must be satisfied your thesis is an original contribution to the discipline concerned and demonstrates your ability to perform independent research.

You’ll be supported throughout your degree by at least two supervisors. The length of your thesis varies across disciplines, but should normally not exceed 80,000 words.

Students enrolled in the IT PhD will have the option to apply and undertake a PhD by practice based research and exegesis as an alternate form of PhD examination. This is in addition to the existing form of examination by standard thesis.

All candidates enrolled in a PhD undertake coursework under the Doctoral Program. This coursework covers advanced training in IT research methods, and equips you with research strategies and skills that will support your PhD project work and prepare you for life after your degree.

For more information on the Monash Doctoral Program, visit monash.edu/it/graduate-education/phd

Entry requirements
You must meet one of the following criteria:

A. A bachelor’s degree of at least four years’ full-time study – normally including a research component in your fourth year, leading to an honours degree at first (H1) or upper second-class level (H2A is 70%+).

B. The minimum entry requirement for PhD is H2A equivalent (70-79).

C. An equivalent course to first or upper second-class honours degree – as rated by the faculty.

D. A master’s degree that comprises a significant research component, at least equivalent to (A) above.

Intake and scholarships
Intake is all year round, subject to finding a supervisor.

Monash University runs four central scholarship rounds for research degrees each year: two for international students with application closing dates of 31 March and 31 August, and two rounds for domestic students with application closing dates of 31 May and 31 October.

To learn more about Monash’s IT PhD degree, visit monash.edu/it/research-degrees
PhD student Anuradha Madugalla is committed to helping people through technology and is a deserving recipient of Google’s Anita Borg Memorial Scholarship. Anuradha’s current research aims to automate the generation of interactive floor plans, which will assist people with visual impairment to navigate unfamiliar places such as shopping centres, train stations or even office buildings. The accessible floor plans, which can be used on a tablet device loaded with the Monash-developed GraVITAS (Graphics Viewer using Vibration Interactive Touch and Speech) system, will make it easier to find essential facilities such as stairwells or lifts, public restrooms and exit doors.

Anuradha Madugalla
PhD student
If you’ve got an idea for a research project that can be experienced, such as a digital cultural archive or a new piece of wearable health technology, a PhD by practice based research and exegesis can work for you.

This innovative form of PhD in information technology encourages multidisciplinary, creative and dynamic projects, and is the only one of its kind in Australia. It’s offered by sensiLab, a collaborative, interactive, immersive research and learning space at Monash’s Caulfield campus.

You’ll be able to present a substantial amount of your research through an immersive, interactive demonstration or exhibition that engages one or more of the senses. You’ll also be examined on a written exegesis of about 35,000 words.

Your research will typically be interdisciplinary, linking IT with another field such as health and medicine, urban planning, cultural heritage or design. Areas such as creative robotics, 3D visualisation, simulation and animation, interactive media, wearable technologies and games are suited to this PhD program.

You’ll have access to Monash’s leading academics across a wide range of disciplines, and you’ll be encouraged to test your idea by deeply exploring the possibilities. Make prototypes. Play.

We offer scholarships to support outstanding interdisciplinary research projects. Contact us to check your eligibility.

monash.edu/it/phd-practice-based
Sojung Bahng

Sojung Bahng is undertaking a PhD by Practice Based Research and Exegesis under the supervision of Professor Jon McCormack. Her current research is focused on arts and technology, especially on new-media film and virtual reality art. She graduated from the Korea Advanced Institute of Science and Technology with a master’s degree in culture technology, and also has a bachelor’s degree in fine arts. She’s worked on diverse multidisciplinary art projects as an artist, curator and director. Sojung has been conducting research on the historical, social and philosophical contexts of new media and cultural studies, and is developing original media systems with digital technologies to reflect aesthetic experiences through digital media.
The Master of Philosophy (MPhil) degree is a supervised program that involves a major research project on a topic of personal interest.

To be awarded this degree, external examiners must declare that your thesis significantly contributes to knowledge in that discipline and demonstrates your ability to perform independent research.

You’ll be supported throughout your degree by at least two supervisors. It’s expected you’ll contribute to an existing body of knowledge by applying, clarifying, critiquing or interpreting that knowledge.

The length of your thesis varies across disciplines, but should not normally exceed 35,000 words.

All candidates enrolled in the MPhil undertake coursework. This coursework-specific training and skills enhance your research and prepare you for life after your degree.

For more information on the MPhil and Monash graduate research, visit monash.edu/it/research-degrees

Entry requirements

You must meet one of the following criteria:
A. A bachelor’s degree with honours II division B or above (H2B 65%+)
B. An equivalent qualification or satisfactory substitute – as rated by Monash Graduate Education.

Intake and scholarships

Intake is all year round, subject to finding a supervisor.

Monash University runs four central scholarship rounds for research degrees each year: two for international students with application closing dates of 31 March and 31 August, and two rounds for domestic students with application closing dates of 31 May and 31 October.
English language pathway, conditional offer and packaged offer

All applicants must meet Monash University’s English Language Proficiency (ELP) requirements for graduate research students.

In certain instances the faculty may make a conditional offer to applicants with a demonstrated capacity to undertake significant research who do not meet the ELP requirements at the time of applying. The conditional and packaged offer requires the student to undertake the Monash English Bridging (MEB) program for graduate degrees and higher degrees of research at Monash College and to achieve the ELP requirements.

English language conditional offer

In certain instances the faculty may make a conditional offer to applicants with a demonstrated capacity to undertake significant research who do not meet the ELP requirements at the time of applying subject to the applicant achieving English Language requirements.

For more information, visit monash.edu/it/graduate-education/elp

Graduate Certificate of Information Technology Research pathway and packaged offer

The faculty offers a Graduate Certificate of Information Technology Research (GCITR). This course provides a pathway to higher-level research in information technology.

This course is for high-achieving students who have completed a relevant undergraduate and coursework master’s degree but do not have a research component required to be eligible to apply for a research degree.

GCITR students will undertake research methodology training and carry out an independent research project on a selected topic. They will work closely with a supervisor who will provide the student with individual guidance and academic counselling. The GCITR will consist of four units that can be completed in half a year. The certificate will only be offered as part of a package with a conditional offer to enter the IT Doctor of Philosophy or Master of Philosophy.
Sound English language skills are required for a Monash research degree. If your first language is not English, the English Language Proficiency (ELP) requirement must be satisfied in at least one of the following ways:

**1. English tests**
Achievement of the required results in one of the following English language tests. Tests that are taken more than two years prior to proposed commencement date will not be accepted.

<table>
<thead>
<tr>
<th>TEST</th>
<th>RESULTS REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>IELTS (ACADEMIC)</td>
<td>• An overall score of at least 6.5</td>
</tr>
<tr>
<td></td>
<td>• No individual band scores less than 6.0</td>
</tr>
<tr>
<td>TOEFL (PAPER BASED)</td>
<td>• A minimum test score of 550</td>
</tr>
<tr>
<td></td>
<td>• A Test of Written English (TWE) score of at least 4.5</td>
</tr>
<tr>
<td>TOEFL (INTERNET BASED)</td>
<td>• A minimum test score of 79+</td>
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<tr>
<td></td>
<td>• No less than 13 in reading, 18 in speaking and 12 in listening</td>
</tr>
<tr>
<td></td>
<td>• No less than 21 in writing</td>
</tr>
<tr>
<td>PEARSON TEST OF ENGLISH (ACADEMIC)</td>
<td>• 58+ no skill level less than borderline</td>
</tr>
<tr>
<td></td>
<td>• Communicative score 50 or greater</td>
</tr>
<tr>
<td>THE CAMBRIDGE ENGLISH</td>
<td>• 176+ no skill below 169</td>
</tr>
</tbody>
</table>

**2. Previous studies**
These studies must be completed within the five-year period prior to application. Successful completion of a tertiary course that was:

- At least two years’ duration
- Conducted entirely in English
- Involved formal assessment of written work
- In any of the Monash University approved English language countries*
- Completed within five years prior to your application.

You will need to provide evidence in the form of a letter or certificate issued by the university registers’ office.

For more information, visit monash.edu/it/research-degrees

* Please refer to ELP at monash.edu/it/graduate-education/elp
The GraVVITAS (Graphics Viewer using Vibration Interactive Touch and Speed) is a multimodal presentation device that uses touch screen and haptic feedback technologies to give blind people access to graphics.

APPLICATION PROCESS

You can submit your application for a Doctor of Philosophy (PhD) or a Master of Philosophy (MPhil) online at monash.edu/it/research-apply

1. Check your eligibility
Entry into a research degree is based on a demonstrated capacity to undertake significant research in a proposed field. You must meet the high academic and English language requirements.

For more information, visit monash.edu/it/graduate-education/eligibility

2. Find a supervisor and research area
Before you apply, please ensure you have:
- Identified a research area of interest
- Discussed the research project with your proposed supervisor
- Checked that supervisors and facilities are available at the campus at which you’re seeking to base your candidature.

For more information, visit monash.edu/it/research-supervisors

3. Complete the expression of interest form
Once you’ve identified a supervisor in the research area of your choice, complete the expression of interest form and submit the form directly to fit-graduate.research@monash.edu

4. Obtain an invitation to apply
After receipt of the expression of interest, an assessment is undertaken based on the information provided. Where you are assessed as suitable to apply for admission to the proposed research degree, and appropriate supervision and facilities are available for your research project, you will be issued with an invitation to apply.

5. Submit an application
After you have received an invitation to apply and have prepared your required documentation, you can then submit an application online at monash.edu/it/graduate-education/apply
LIVING IN MELBOURNE
Australia is progressive, thriving and beautiful. Our cities are urbane and cosmopolitan, and our landscapes range from pristine sandy beaches to perfect snowy mountains.

If you’re looking for an unforgettable study experience, Melbourne’s the place for you – it has an enviable reputation for welcoming international students and providing them with a home away from home.

Melbourne is home to more than four million people, and is one of the world’s most culturally diverse cities.

Named the world’s most liveable city for the past seven years*, Melbourne is a rich, multicultural melting pot of friendly, cosmopolitan people, with high education, health care, public transport and safety standards, along with excellent employment rates.

Melbourne’s diverse economy is renowned for its strengths in finance, information communications technology, biotechnology, research, manufacturing, aviation/aerospace and creative industries. There are vast opportunities for casual work while studying.

From beautiful parks and gardens to the edgy arts and music scene, the city has something for all tastes, including international sporting events and a range of cultural festivals. If food is a passion, you’ll be superbly catered for in Australia’s restaurant capital, with more than 3000 restaurants offering cuisines from around the world.

* Economist Intelligence Unit 2011-2017
Monash IT also offers a number of graduate coursework programs. These can provide a pathway into a research degree for high-achieving students via the coursework research option. This consists of research methodology training and an independent research project on your selected topic, cumulating in a minor thesis.

**Master of Business Information Systems (MBIS)**

The Master of Business Information Systems is a graduate degree that prepares you for careers in business-focused IT areas such as IT management, project management, business information systems, information management or knowledge management. The degree covers the business IT spectrum from supporting business operations through to supporting managers’ decision-making. In the process, the MBIS covers both theoretical foundations and their practical application.

For more information, visit monash.edu/it/courses/mbis

**Master of Data Science (MDS)**

The Master of Data Science will prepare you for a career in data science, providing you with the skills needed to deal effectively within the areas of data analytics, data management and data processing. The course covers statistical and exploratory analysis, data formats and languages, processing of massive data sets, and management of data and its role and impact in an organisation and community. The course also considers broader organisational and societal issues, and the impact of data science on society.

For more information, visit monash.edu/it/courses/mds
I decided on Australia, and Monash in particular, because of the strength of the computer science department in the domains of machine learning and visualisation. Melbourne being a beautiful city and a growing hub for software companies only made the decision much easier. My experience at Monash and completing my master’s had such an impact on my academic life. It helped me to understand that my strengths are suited to research, and encouraged me to pursue a PhD in machine learning.”

Nandini Anantharama
Master of Information Technology and PhD student

Master of Information Technology (MIT)
The Master of Information Technology provides you with the skills to solve real-world problems with cutting edge technology. Learn to create innovative IT solutions, support organisational functions and solve complex social, economic and technical problems. The degree develops deep theoretical and practical knowledge in a chosen specific area, providing you with the skills to take on leading roles in the IT industry.

For more information, visit monash.edu/it/courses/mit

Master of Networks and Security (MNS)
The Master of Networks and Security covers in-depth best-practice techniques and principles for designing, analysing, implementing and managing cyber security systems and communication networks. The course examines how modern technologies operate and interact. Learn to identify potential security weaknesses in software components and communication channels and how to minimise such vulnerabilities when designing new systems. This course covers emerging techniques from research communities in cyber security and networks, keeping you at the forefront of industry advancements.

For more information, visit monash.edu/it/courses/mns

Master of Project Management (MPM)
The Master of Project Management is a forward-thinking, interdisciplinary course that integrates the knowledge needed to manage projects and programs across multiple sectors. Get hands-on, real-world project leadership experience in a wide range of settings, such as business delivery, IT developments and engineering solutions, in the corporate, government and not-for-profit sectors. Designed to provide specialist project management expertise, the course gives you the training, language and tools to be a leader in a rapidly growing field.

For more information, visit monash.edu/it/courses/mpm