

Paid Engineering Internship: Bioreactor Development for Cultivated Meat

Company: Cytofarms Pty Ltd

Location: Melbourne, Australia (Onsite Requirement)

Duration: 3–6 months

Compensation: Paid opportunity (rate discussed based on academic year and skills)

About Cytofarms

Cytofarms Pty Ltd is a Melbourne-based Cultivated meat startup focused on enabling decentralised, scalable production of cultivated meat ingredients. We are developing compact, low-cost bioreactors that will allow small producers and food manufacturers to culture animal cells directly at their facility. Our initial target market is cultivated beef based food, using scalable cell culture bioreactors developed in-house.

Opportunity for Monash Students

Cytofarms invites Monash University students to join our team to help design, prototype, and validate a novel benchtop bioreactor for animal cell growth. This internship directly applies engineering skills in a fast-emerging biotechnology sector of cultivated meats.

Onsite Requirement: Minimum 3 days/week onsite in Melbourne for lab collaboration, design reviews, and prototyping.

Preferred Study Areas of the applicants:

Students currently enrolled in:

- Mechanical Engineering
- Mechatronics Engineering
- Electrical & Computer Systems Engineering
- Biomedical Engineering
- Chemical Engineering (with interest in bioprocess)

Desired Skills

Prior experience is beneficial but not mandatory:

Skill Area	: Examples
3D CAD	: Fusion 360, SolidWorks
Electronics/Controls	: Arduino, Raspberry Pi, PID
Sensors	: pH, oxygen, temperature
Fluid Systems	: Pumps, sterile flow, mixing
Fabrication	: 3D printing, machining
Programming (Optional)	: Python, MATLAB, LabView

No biology expertise required — full training provided on cell culture needs.

Intern Responsibilities

- Translate cell culture requirements (sterility, aeration, mixing) into engineering systems.
- Design the reactor vessel, impeller system, ports, and fluid pathways.
- Develop and integrate control systems for temperature, agitation, feeding, and sensors.
- Evaluate materials for biocompatibility and sterilisation feasibility.
- Participate in lab testing to validate prototype function and performance.
- Produce full technical documentation including:
 - CAD files
 - Engineering drawings
 - BOM (Bill of Materials)
 - Control schematics and operating procedure

Expected Internship Outcomes

1. Functional benchtop bioreactor prototype suitable for animal cell culture.
2. Full engineering documentation set enabling reproducible manufacturing.
3. Integrated monitoring and control system (e.g., temperature, mixing, basic sensors).
4. Prototype test report assessing system performance and improvement roadmap.

Benefits for Monash Students

- Paid industry placement with real-world social and commercial impact.
- Application of core engineering skills in a high-growth bioengineering field.
- Hands-on lab + prototyping experience bridging mechanical, electrical, and biological systems.

Application Process

Submit the following

- CV (max 2 pages)
- Short statement (max 150 words) on why you're interested in building bioreactors
- Optional: Attach CAD, electronics, GitHub links, or prototype examples