



# EMMA SCULLY

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## EDUCATION

### **Bachelor of Electrical and Computer Systems Engineering & Bachelor of Biomedical Science | Monash University**

2017 – 2021

Notable skills in MATLAB, Python, and C. Developed teamworking skills for engineering projects.

2017, 2018, 2020, 2021– Dean's list | GPA – 3.7 | WAM – 82

2021 – R Medding & Associates Award for outstanding work in control engineering.



## EXPERIENCE

### **Research Engineer | 4DMedical**

January 2021 - Present

As a research engineer, I have had experience in both product development and data analysis. I developed key processes for 4DMedical's latest product, CT:LVAS and since its release I have worked in the Analysis team. I am highly proficient in Python, particularly doing big data analysis. I've done extensive analysis on patient data collected from clinical trials and I have delivered many presentations on these findings. I am also highly adept at Linux, Atlassian collaboration tools and automating tasks with Bash.

### **Engineering Summer Research Scholarship | Monash**

2020 – 2021

Over the summer of 2020 / 2021 I worked with Dr. Yan Wong and the Monash Vision Group, shadowing them on their Bionic Vision program. I assisted with animal experiments and have learnt valuable skills in research and data analysis. My project consisted of creating a data analysis pipeline working with new brain-recording electrodes and developing an electrode-etching process.

### **President | Society of Monash Electrical Engineers (SMEE)**

2020 – 2021

As president of SMEE I ran our annual robot building competition, a technical industry night and various social events. These events help students get involved at university, make friends, and develop their technical skills. We also organized workshops to teach students how to use oscilloscopes as they missed practical skills due to online learning amidst COVID-19.

### **Healthcare Initiative Scholarship Program | Monash Young MedTech Innovators (MYMI)**

2019 – 2020

I worked with MYMI to develop Project TARA (The Alfred Rehabilitation App). I developed wireframes, patient-need stories, and basic coding. The app is for patients who have just received a lung transplant and require in-depth management for their medication and rehabilitation program. This application has now been forwarded to a professional programmer to continue its development.



## SKILLS

I have a passion for organization, efficiency and teamwork. I am highly proficient in Python, particularly signal processing packages like SciPy and NumPy. I can also code in MATLAB, JavaScript, C, Verilog and MIPS. I am a fast learner, eager to learn new things and super keen. I have a robust understanding of signal processing required in biomedical systems.



## PROJECTS

### 2021 – Final Year Project: NeuroStim

For my FYP I developed a compact neural stimulator capable of delivering custom waveforms to stimulate brain tissue. My project was affordable, customisable and could be coded to deliver any waveform shape. My project video can be viewed [here](#) or on emmascully.info

### 2020 – Restoring Vision to the Blind

Working with Dr. Yan Wong I developed an electrode etching process and used a new Neuropixels array to record brain activity. My Three Minute Thesis can be viewed [here](#) or on emmascully.info



## VOLUNTEERING

### 2019 SMEE Robot Building Competition

- Demonstrating and supervising teams
- Administrative tasks such as team allocation and scheduling
- Basic Arduino coding

### Secretary & Third Year Rep for Society of Electrical Engineers, Monash University

As secretary for “SMEE”, I ensured that the administrative responsibilities associated with a club are all up to date. I took minutes and was responsible for email correspondence.

### 2018 “Robogals” Monash Workshop with Keysborough College

- Working with a team of demonstrators to teach secondary school students.
- Assisting with basic coding in Scratch



## REFEREES

My referees are available upon request.



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