



## CONTACT

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## COVER LETTER - JOSHUA SUTTON

### JOSHUA SUTTON

Embedded Device Engineer

+61 412 308 044

joshua@joshua-sutton.com

NSW, Australia

Open to relocation

Hi there! 🙌

A little about myself: I am an engineer with a passion for problem solving.

Over my career I have worked with both hardware and software. I've been fascinated with embedded devices for a very long time, and have engaged in the design and development of various embedded systems.

I tinker with hobby electronics in my spare time, with a focus on microcontrollers and other embedded platforms. Additionally I appreciate the difficulty of working with systems such as these and I greatly enjoy the challenge.

I have a passion for working on technologies to help people. This drives me to seek new problems to solve. I have worked extensively with clients and universities to develop new and innovative technologies to enable easier living for disadvantaged individuals.

My proficiencies span from embedded firmware programming to bare metal design. I also have experience with hardware debugging and troubleshooting, hardware interfacing, and wireless protocols.


Extensive pursuit for information, and eagerness to investigate novel and innovative concepts that can be applied in a technical setting to foster my pursuit of knowledge are key motivators for me.

I would love to set up a conversation to further discuss what I can bring to your organization. You can reach me by phone at +61 412 308 044 or by email at joshua@joshua-sutton.com ✉

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## SOCIAL

 [joshua-sutton.com](http://joshua-sutton.com)

 [linkedin.com/in/Tamookk](https://www.linkedin.com/in/Tamookk)

## EDUCATION

### University of Wollongong

Bachelor of Engineering  
(Electrical) (Honours)



UNIVERSITY  
OF WOLLONGONG  
AUSTRALIA

Bachelor of Computer  
Science

2017-2022

### Chevalier College

Bowral, NSW

2011-2016



## SKILLS

Electrical Engineering



Embedded Systems Firmware



Video Game Programming



Teamwork



Python



C++



# JOSHUA SUTTON

Embedded Device Engineer & Software Programmer



+61 412 308 044



[joshua@joshua-sutton.com](mailto:joshua@joshua-sutton.com)



NSW, Australia

## PROFILE

Goal-oriented with years of experience in embedded systems programming, software engineering, and video game development.

I find myself driven by a strong thirst for knowledge, and desire to explore new and exciting ideas to apply in a professional setting, and to enhance the growth of an organisation.

## WORK EXPERIENCE

### EMBEDDED SOFTWARE ENGINEER

University of Queensland / Brisbane, QLD



- Developed firmware for a bipedal robot being created by the Robotics Design Lab at the University of Queensland.

- Developed a desktop application for wireless telemetry and control of robotics systems.



- Performed code refactoring and source code review.

- Undertook diagnostics and issue remediation of several aspects relating to the design of hardware prototypes.

### INTERACTIVE MEDIA DEVELOPER

TalonFour Cyber Labs / Adelaide, SA



- Utilised Unity to develop 3D, interactive training materials, including the use of advanced VR/AR technologies.

- Developed customer shaders using the OpenGL Shading Language to implement custom lighting in interactive scenes.



- Created 3D assets in Blender for use in training materials.

- Implemented and rolled out artificial intelligence assisted path finding.

## AWARDS

- Top 3 Engineering Thesis Projects (2021)  
University of Wollongong
- Most Popular Display 3rd Year Engineering (2019)  
University of Wollongong
- Most Popular Display 2nd Year Engineering (2018)  
University of Wollongong
- UOW Engineering and Information Science  
Award for Excellence in Technology and  
Applied Studies (2016)  
University of Wollongong & Chevalier College

## DEV STACK

- Python
- C++
- Linux (Debian, Ubuntu)
- CI/CD (GitLab, Github)
- Virtualisation (VMware)
- Management Tools (Redmine, Taiga)
- Operating Systems (macOS, Linux, Android, Windows)

## INTERESTS

-  ————— Video Games
-  ————— Programming
-  ————— Hobby Electronics
-  ————— Geocaching
-  ————— Marvel Movies
-  ————— Cooking

## REACH OUT



My Website



Book a Chat

## PAST PROJECTS

### NAVIGATIVE ASSISTIVE DEVICE

Developed a prototype embedded navigative assistive device that utilised neural networks and machine learning for guiding blind individuals through unseen and hazardous environments.



### SHOOSH

Worked in a team of 6 to develop a video game in a short time period for a university project. My focus was on game programming, including physics, gameplay elements, artificial intelligence, and writing custom shaders.

```
20 // Update is called once per frame
21 void Update()
22 {
23     // Send out raycast
24     if (Physics.Raycast(transform.position, transform.forward, out hit, 2))
25     {
26         // If raycast hits an object that can be picked up
27         if (hit.collider.gameObject.tag == "Pickupable")
28         {
29             // Show interaction text
30             interactText.SetActive(true);
31
32             // If mouse held down
33             if (Input.GetMouseButton(0))
34             {
35                 // Only allow one object to be picked up at once
36                 if (held)
37                     return;
38
39                 // Pick up object and make kinematic
40                 hit.collider.gameObject.transform.SetParent(this.gameObject.transform);
41                 pickupRb = hit.collider.gameObject.GetComponent<Rigidbody>();
42                 pickupRb.isKinematic = true;
43                 pickupRb.collisionDetectionMode = CollisionDetectionMode.ContinuousSpeculative;
44                 held = true;
45             }
46         }
47     }
48 }
```

## FAVORITE TECHNOLOGIES



Unity



Python



C++



Visual Studio



Unreal



VMware

## REFERENCES



**Pauline Pounds**

Assoc. Prof. of Mechatronics

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