



JOSHUA SUTTON

Embedded Device Engineer & Software Programmer



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NSW, Australia

SOCIAL

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EDUCATION

University of Wollongong

Bachelor of Engineering (Electrical) (Honours)



UNIVERSITY OF WOLLONGONG AUSTRALIA

Bachelor of Computer Science

2017-2022

Chevalier College

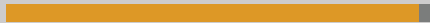
Bowral, NSW



2011-2016

SKILLS

Electrical Engineering



Embedded Systems Firmware



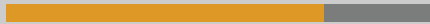
Video Game Programming



Teamwork



Python



C++



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



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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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