

Hunter M Bashaw

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EDUCATION

CLARKSON UNIVERSITY

POTSDAM, NY

BACHELOR OF SCIENCE

COMPUTER SCIENCE

MINOR IN MATHEMATICS

GPA: 3.6/4.0

SKILLS

PROGRAMMING

Proficient:

C • C++ • Go

Used:

Rust • Python • C# • Swift • Java

Objective-C • Haskell • HTML

x86 and Sparc Assembly

TECHNICAL SKILLS:

Git • ROS • SpriteKit • SDL • WPF

UWP • QEMU • Wireshark • NMap

Bash • LaTeX • Linux • Mac OS/iOS

Microsoft Windows

PUBLICATIONS

IROS 2020

Design and Experiments with LoCO AUV:

A Low Cost Open-Source Autonomous

Underwater Vehicle

AIES 2020

When Trusted Black Boxes Don't Agree:

Incentivizing Iterative Improvement and

Accountability in Critical Software

Systems

COURSEWORK

UNDERGRADUATE

Operating Systems

Computer Networks and Security

Software Design and Development

Computer Networks

Artificial Intelligence

Compiler Construction

Computer Algorithms

Formal Methods and Program Verification

Algorithms and Data Structures

Automata Theory

EXTRACURRICULAR

SDR Operator 2020-

Clarkson Orchestra 2016-2019

Clarkson Tea Club 2018-2019

Creative Writing Club 2018

EXPERIENCE

JOHNS-HOPKINS APPLIED PHYSICS LAB | SOFTWARE ENGINEER

June 2020 - Present | Laurel, MD

Designed flight software applications for the command and data handling subsystem of the IMAP spacecraft

- Designed flight software applications to manage instrument commands, file system interaction, CPU scheduling, and task health monitoring
- Lead a project to emulate our spacecraft hardware in QEMU (Sparc32)
- Planned and assisted hosting the 2021 Flight Software Workshop
- Ported our build system and flight software to RTEMS 5.1
- Contributed to a trade study on flash file systems

BLUEROOF LEARNING | BACKEND SOFTWARE ENGINEER

February 2020 - June 2020 | Remote

Worked as a backend developer for BlueRoof, an online music education platform

- Implemented the Skills Assessment Survey scoring algorithm
- Worked on data layout changes inside the PostgreSQL database
- Updated the server configuration import system

INTERACTIVE ROBOTICS AND VISION LAB | RESEARCH ASSISTANT

June 2019 - August 2019 | Minneapolis, MN

Worked under Dr. Junaed Sattar with a team of researchers to design and implement two autonomous underwater vehicles

- Created a ROS based software stack to manage sensor communication
- Implemented a ROS teleoperation node to guide the robot
- Implemented a visual saliency algorithm to guide camera movements
- Configured and maintained the main guidance computer
- 3D Printed and assembled parts

C SPEED, LLC | SOFTWARE ENGINEERING INTERN

May 2018 - August 2018 | Liverpool, NY

- Wrote hardware health testing software for ARM and FPGA based systems
- Worked with embedded protocols, such as SPI and I2C
- Worked with embedded operating systems such as FreeRTOS
- Wrote GUIs for various software projects in WPF, AvaloniaUI, and NoesisGUI

COSINE LAB | RESEARCH ASSISTANT

September 2017 - May 2018 | Potsdam, NY

Worked under Dr. Mahesh Banavar to design and implement an

electroencephalogram based control system for robotics applications

- Created a threshold-based system to signal movement commands
- Created a averaging filter to clean noise in the data
- Learned principles of electroencephalography

CLARKSON OPEN SOURCE INSTITUTE | LAB DIRECTOR

April 2017 - October 2018 | Potsdam, NY

- Managed lab meetings, budget, and social environment
- Present weekly "lightning talks" (5-minute computer science talks)
- Studied Google's Fuchsia operating system and tested various components
- Wrote small operating system kernel in Rust
- Wrote Markov-based IRC and Discord bot to generate conspiracy theories
- Wrote a city builder game in C and Rust using SDL2
- Lead workshops on robotics, Go, and electroencephalography
- Maintained services: backup server, SSH gateway, web hook server, NAS
- Recorded meeting minutes for every meeting