Christopher Thierauf

Robotics-oriented Computer Science Student

Boston, Massachusetts

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Software Languages

- Confident in Java, C, Python, C++
- Familiar with Bash, x86 Assembly, R
- Capable of some Node.JS, Prolog, F#

Tools

Vim, GCC, Git, GDB, Make, CMake, Gazebo, RViz, Eclipse, LaTeX, Parametric design tols (OnShape, FreeCAD, Autodesk Inventor), PICKit 3/4

Frameworks

ROS, MoveIt!, ADE, OpenCV, PCL, TKinter

Operating Systems

GNU/Linux Debian, Ubuntu, Arch Linux, RHEL, Windows

Devices

Universal Robots Collaborative line, PR2, Kinova ULeA, FDM-based 3D printers, Raspberry Pi, Arduino, Rethink Robots Sawyer and Baxter, some of the Microchip PIC family, some Atmel devices

Relevant Courses

Algorithms, Data Structures, Differential Equations, Discrete Mathematics, Manufacturing, Microcontrollers, Operating Systems, Parallel Computing, Real Analysis, Software Engineering

Other Skills

- Proficient with Linux command line
- Familiar with FDM printer usage and design for basic manufacturing
- Above average knowledge of lathe/knee mill usage through manual, g-code, or conversational operation
- Basic knowledge of oscilloscope, waveform generator, power supply, and multimeter usage

Education

Bachelor of Science in Computer Science — Expected April 2020

Wentworth Institute Of Technology

GPA: 3.26/4.0

Minor in Applied Mathematics — August 2019

Wentworth Institute Of Technology

Awards

Dean's List — Summer 2019

Awarded for scholastic achievement

Salute to Framingham — Summer 2016

Awarded for student contributions to local robotics learning opportunities

Published works

Lecture — Spring 2019

C. Thierauf, "Free Software in the 3D Printing Community", LibrePlanet, MIT, 2019.

Peer-reviewed Conference Paper — Summer 2018

C. Thierauf, "Networking 3D Printers with Printfarmer", IEEE MIT Undergraduate Research Symposium, 2018.

Notable Experience

Software Engineering Co-op in Applied Robotics Research — Fall 2019

Thinking Robots, Inc

- Created interface between natural language goal system and humanoid robot
- Expanded ADE to support wide array of robot systems

Undergraduate HRI Research Assistant — Spring 2019

Tufts University

- Contributed to development of ROS, ADE system for assistive robotics
- Created interface between Kinova and ADE

Undergraduate Additive Manufacturing Research Assistant — Summer 2018

Wentworth Institute of Technology

- Contributed to software, mechanical, and electrical design
- Wrote code and test cases for 3d printer firmware

Select Projects

"Enbarr": An Underwater ROV Research Platform — Spring 2019

- Designed and implemented software architecture for autonomous underwater vehicless with emphasis on platform agnosticism
- Designed and built underwater ROV to demonstrate software architecture

MATE International ROV Competition — September 2016 to May 2019

- Wrote code to control complex electromechanical system on GNU/Linux platform
- Communicated with 15+ member interdisciplinary team to design and implement ROV electromechanical system

Laser Scarecrow (Northeastern SARE FNE18-893) — Summer 2018

- Contributed to logic, electrical, and hardware design of system to repel birds from crops with priority on simplicity, ruggedness, and low cost
- Developed system brought crop loss down by 85 percent at an order of magnitude cheaper than existing solutions while meeting grant requirements

Spectral Digitizer — Summer 2016

- Wrote code to control stepper motor at high precision at direction of experienced engineers
- Project goal was to create a machine to digitize physical records of elemental spectra per request of NIST

Extracurricular Activities

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Editorial Board Member
March 2019 to present

Wentworth Undergraduate Journal

- Conducted double-blind peer reviews and edited content for publication
- Contributed to standards and procedures in the creation of the first edition of undergraduate journal

Software Lead
December 2018 to September 2019

Wentworth IEEE MATE ROV Team

- Designed, wrote software architecture for complex electromechanical system
- Wrote code for motor control, communications, and control loops
- Mentored, collaborated with new members and 15+ member interdisciplinary team

Software Team Member
September 2016 to December 2018

Wentworth IEEE MATE ROV Team

- Wrote code for motor control at direction of more senior members
- Coordinated software and electromechanical needs to 15+ member interdisciplinary team

Student Lab Manager
December 2018 to December 2019

Wentworth IEEE Student Chapter

- Responsilble for student-run lab space used for student projects
- Tracked individual and multi-person project needs to mantain electrical supplies
- Coordinated with school administration to manage room access and code compliance

President
December 2017 to December 2018

Wentworth IEEE Student Chapter

- Organized and presented weekly events and lectures on variety of technical topics
- Led admin team in creation of organizational structure to facilitate student-run projects

Vice President
June 2017 to December 2017

Wentworth IEEE Student Chapter

- Coordinated with projects within organization to delegate project resources
- Helped to represent organization at public events

Hackathon Board Member
September 2016 to September 2018

Wentworth Computer Science Society of the ACM

- Worked with team to manage, collect, and spend funds for hackathon event
- Wrote majority of public written content, edited the remainder of written content

Project Lead
January 2016 to December 2017

Wentworth Robotics Club

- Helped create and later fill position for managing projects within growing club
- Acted as a point of contact between administrative team and software, hardware project groups