

Steven Wu

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EDUCATION

Carnegie Mellon University – Pittsburgh, PA

Bachelor of Science in Computer Science, expected May 2023

Technical Skills: Java • C/C++ • Python • ROS • Robotics • XML • SML • LaTeX • GitHub • Linux • Windows • Swift

WORK EXPERIENCE

Raven Industries, Ames, IA

Software Engineering Intern

Jun 2020 – Aug 2020

- Researched and developed hybrid A*-based path planner to guide autonomous tractors to unload grain carts
- Collaborated with multidisciplinary team on product development in a startup environment
- Built dynamic model with Python to simulate motion of tractor-trailer systems and implemented behavior tree structure to integrate AutoUnload with existing AutoCart product line

NASA Johnson Space Center, Houston, TX

Jun 2019 – Aug 2019

Robotics Academy Intern

- Collaborated with NASA robotics engineers and professional bomb technicians through the Combating Terrorism Technical Support Office (CTTSO) Bomb Tech Workshop
- Familiarized an international audience of bomb technicians with robotics design and repair
- Built stair- and ladder-climbing robots to accomplish bomb detection and threat recognition tasks

RESEARCH & PROJECTS

MoonRanger

Jan 2020 – May 2020

Navigation Programmer, Software Documentation Lead

- Investigated path planning software and radiation-hardening techniques for autonomous ice-finding moon rover mission
- Studied CI/CD pipeline to restructure and streamline software team's GitHub workflow

UkuleleBot

Sep 2019 – Present

- Designed and constructed 3D-printed frame, programmed actuators/servos on Arduino for self-playing ukulele robot

Beacon: Democratized Disaster Response

Sep 2019

- Designed location-tracking iOS app with Swift for natural disasters to coordinate local rescue operations

EXTRACURRICULAR ACTIVITIES

Carnegie Mellon Robotics Club

Aug 2019 – Present

RobOrchestra Software Lead

- Software and mechanical engineer in RobOrchestra – design robots to play instruments by themselves/with each other
- Set agenda and objectives for software meetings – lead music generation algorithm project

Sweepstakes ("Buggy")

Sep 2019 – Present

Secretary

- Manufactured small carbon fiber vehicles for a single human occupant for annual campus tradition race

Carnegie Mellon Informatics and Math Competition (CMIMC) Organizing Team

Feb 2020 – Present

Software & Logistics Committee Member

- Planned and ran annual computer science/math competition for ~500 high schoolers from around the world

FIRST Robotics Competition – FRC Team 118 The Robonauts

Jan 2016 – Apr 2019

Public Outreach Coordinator, Software Programmer

- Organized outreach events to introduce robotics and STEM to students in our local community
- Wrote and debugged C++/XML for vision systems and autonomous routines under mentorship from NASA engineers

VEX Robotics Competition

Sep 2016 – Apr 2018

Team Captain, Software Lead, Drive Coach

- Managed 6 team members to efficiently utilize resources and construct an effective robot
- Negotiated and revised strategies with alliance partners before and during matches

AWARDS & ACADEMIC ACHIEVEMENTS

National Merit Scholarship Award Winner

Mar 2019

Intel International Science & Engineering Fair (ISEF) Finalist

May 2019

International Conference on Environmental Science & Technology (IC EST) 1st Place Poster Award

Jun 2018

- Engineered natural materials to reduce phosphorus to combat algae bloom in polluted aquatic environments