ALEX TACESCU

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TECHNICAL SKILLS

Robotics: Software Development, Mechanical Design, Electrical Design, Agile Project Management (SCRUM)
3D CAD: Design and Simulation in Autodesk Inventor [7 years], Dassault SolidWorks [5 years], and PTC Creo Parametric (ProE) [1 year]
Programming: ROS (C++ & Python), Android (Java), and Git
Microprocessor & Single-Board Computers: Raspberry Pi, BeagleBone Black/Blue, NVIDIA TX1/2,ESP32 & ESP8266, Device Trees in Linux
Other Software Experience: Linux (Debian/Ubuntu), MathCAD and MATLAB, Adobe Creative Suite(Photoshop & Premiere), Excel Macros Programming

QUALIFICATION SUMMARY

Robotics engineering student with significant experience in 3D CAD design and extensive knowledge of multiple programming languages in multidisciplinary applications

EDUCATION

M.S. in Computer Science

Worcester Polytechnic Institute

Graduation: May 2020 GPA: 3.37

LEADERSHIP EXPERIENCE

2017 Project Manager for scrum team working on Project Pather as described above
2016 Leadership Practice at WPI: analyzed business and leadership practices for an on-campus organization with Prof. Sharon Wulf
2012-16 Lead Technical Director, CAD, Build and Pit Team Leader for FIRST FRC Robotics Team 2761

HOBBIES

Robots, Coding, Tennis, Ultimate Frisbee, Skiing, Fishing, Camping

References Available upon Request

EXPERIENCE

Integration Engineering Intern

Tesla

Summer 2018 Palo Alto, CA

- Responsible for troubleshooting battery thermal system issues and developing test stands for Model S/X, Model 3, Semi-Truck, and other products
- Developed software components for testing, collecting data over CAN networks
- Discovered and fixed 3 issues in critical systems such as the battery and powertrain thermal system and the high voltage system
- Identified a problem and implemented a change in 2 assembly cells that increased Model 3

end-of-line production by 45

Student Assistant

Worcester Polytechnic Institute

Aug 2018 – Current Worcester, MA

- Student Teaching Assistant for WPI's Junior year Robotics classes (RBE 3001 & 3002) focusing on robotic manipulation, dynamics, machine vision, path-planning, and other advanced concepts

PROJECTS

2018-Present: SmallKat Major Qualifying Project is a quadrupedal robotic platform designed for research and development of multipedal robotic systems. SmallKat is 3D printed, open source, and contains fully custom electronics. I am developing the high-level software, including footstep planning, path planning, forward/inverse kinematics, machine vision, and networking systems for off-platform debugging. To learn more, please visit www.alextac.com/smallkat

2015-Present: Project Maverick is an award-winning omni-directional robotic system that provides mobility for people with walking disabilities. The drive system allows the user to move in any direction using 4 steering and 4 driving electronically synchronized motors, creating the same degrees of motion as an able person. It was designed, built, and programmed as a personal project, initially with Java and then converted to ROS (C++ & Python). To learn more, please visit www.pmaverick.com

2017-2018: Poverty Stoplight Interactive Qualifying Project is an Android application for social workers in Paraguay to better help people in poverty. The application was designed for Fundación Paraguay and Poverty Stoplight and consisted of developing a REST API and an Android application capable of syncing sensitive family data with a secure server. To learn more, please visit www.alextac.com/stoplight-iqp

2016-17: NASA Space Robotics Challenge is a competition to develop software for NASA's humanoid robot Valkyrie. Developed footstep motion planning, optimized cycle-speed, and tested in ROS, C++, and Python with Gazebo as a member of the WPI Humanoid Robotics Lab. To learn more, please visit www.alextac.com/src

2017: Project Drogo is a wearable embedded system accompanied by a smart-phone app designed to assist elderly people through post-hip surgery recovery. It combines 2 goals of post-surgery medicine: preventing prohibited motions and guiding the user through physical therapy and rehab. Developed on a team of 4 students as a part of the hackathon Health Hacks RI. To learn more, please visit www.alextac.com/drogo

2017: Project Pather is a kiosk mapping software developed to provide directions to Bringham and Women's Hospital visitors. It has contextual search as well as the capability to send users directions via text message or email. It is written in Java and JavaFX, with a SQL backend, and was developed on an 8-person team for a school project. To learn more, please visit www.alextac.com/pather

2012-16: FIRST FRC Robotics Team 2761 4 cumulative seasons with the team. Designed, built, programmed, and tested 5 full-size robots. To learn more, please visit www.alextac.com/frc

AWARDS

2018

- Dean's List at WPI (Spring 2018)
- Rho Beta Epsilon Robotics Engineering Honor Society Member

2017

- Dean's List at WPI (Fall 2017)
- 1st Place at HealthHacksRI at the University of Rhode Island for Project Drogo
- NASA Space Robotics Challenge Team Finalist

2016

- 2nd Place at the Intel International Science and Engineering Fair (ISEF) in the category of Applied Mechanics
- Google International Science Fair Regional Finalist
- International Council on Systems Engineering First Award for "best interdisciplinary project that can produce technologically appropriate solution that meet societal needs" at the ISEF
- GE Fallonventions Award and participation on NBC's Tonight Show starring Jimmy Fallon (aired on April 11, 2016)
- Sweepstakes Award winner (1st place overall) and 1st place in Engineering at the Central California Science, Math, and Engineering Fair
- National Honor Society Inductee and California Scholarship Federation Member

2015

- Institute of Electrical and Electronics Engineers President's Scholarship Award at Intel Science and Engineering Fair for "an outstanding project demonstrating an understanding of electrical engineering, electronics engineering, and computer science."
- 1st place in the category of Applied Mechanics and Structures at the California State Science Fair
- Sweepstakes Award winner (1st place overall) and 1st place in Engineering at the Central California Science, Math, and Engineering Fair

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