Alex C. Tacescu

+1(559) 301-6222 | alextac98@gmail.com | www.alextac.com

Qualifications Summary

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

Technical Skills

Robotics: Mechanical Design, Electrical Design, Robot Building, Software Development, 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), Arduino (C++), Android (Java & C++), HTML, CSS, JavaScript, and Git

Embedded Systems: Raspberry Pi & BeagleBone Black/Blue, Device Trees in Linux

Other software experience: Adobe Creative Suite (Photoshop & Premiere), Excel Macros Programming, Linux (Debian/Ubuntu), MathCAD and MATLAB

Education

Worcester Polytechnic Institute (WPI): Graduating in 2020 with BS/MS in Robotics Engineering

Projects – Please visit www.alextac.com/projects for all projects and updates

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 programed as a personal project, initially with Java and then converted to ROS. To learn more, please visit: www.pmaverick.com

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

2016-17: NASA Space Robotics Challenge is an industry competition to develop code for NASA's humanoid robot Valkyrie. I worked on footstep planning, cycle-speed optimization, and testing in ROS, C++, and Python as a part of the WPI Humanoid Robotics Lab. To learn more, please visit: www.alextac.com/src

2017: Project Drogo is a wearable to assist elderly people through post-hip surgery recovery with an embedded system accompanied by a smart-phone app. It combines 2 goals of post-surgery medicine: preventing prohibited motions, and guiding the user through physical therapy and rehab. Project Drogo was developed as a part of the hackathon HealthHacksRI, in a team of 4 students. 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 a message containing the directions via text message or by email. Developed as a school project, it is written in Java and JavaFX, with a SQL backend. To learn more, please visit: www.alextac.com/pather

2013-16 4 seasons with **FIRST FRC Robotics Team 2761** (total of 5 robots designed, built, programmed, and tested). To learn more, please visit www.alextac.com/frc

Awards – Please visit www.alextac.com/awards for updates

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 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 Intel Science and Engineering Fair
- 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

Leadership

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

Robotics Engineering, Computer Science, Tennis, Ultimate Frisbee, Skiing, Fishing