Ryan Blackwell

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WORK EXPERIENCE

Software Engineer – Remote, AeroVironment — February 2019 – Present

- Full stack software development with an emphasis on the frontend using React.js, TypeScript, and the C# .NET Framework for a web-based ground control station for unmanned aerial vehicles.
- Developed single-page web app features with React.js. Heavily involved in all stages of the development life cycle, including requirements gathering, UI/UX design, implementation, testing, and soliciting customer feedback.
- Documented, triaged, and fixed bugs. Provided support to the QA team to assist with automated testing.
- Designed and implemented a cross-platform C# .NET package for interacting with Bluetooth game controllers. Utilized the package to implement the ability to navigate and interact with React.js web pages.
- Led an effort to investigate how to improve performance when loading video metadata into memory. Utilized a CPU profiler to identify potential areas for improvement in the code base. Implemented a fix that resulted in video files loading into an in-app file navigator 50% faster.
- Designed and implemented a software module for managing digital terrain elevation data. Functionality included handling requests to cache data on disk and querying and manipulating large amounts of data in memory. Heavy use of asynchronous programming in a highly memory and CPU constrained environment.
- Collaborated with the flight operations team to identify and improve upon important legacy software functionality. Acted as a liaison between the software team a hardware team in New England to successfully integrate a VTOL aircraft into the app while meeting a pressing deadline for a customer demo.
- Received a company-wide high achievement award for critical contributions to a mission-planning feature.

Software Engineering Intern, Insitu — May 2017 – August 2017, May 2018 – August 2018

- Developed Windows and Android-based ground control software for unmanned aerial vehicles using the C# .NET Framework. Collaborated with coworkers in an Agile environment. Participated in daily scrum meetings and code reviews.
- Refactored a UDP messaging library and implemented asynchronous send/receive methods. Wrote unit tests to verify and document system performance.
- Added .NET Standard support to the open-source library Math.NET Numerics to facilitate porting a Windows application to Android (currently available on GitHub).
- Developed a Cake (C# Make) script to help automate compiling projects and building NuGet packages.
- Implemented a splash screen and a configuration settings screen for an Android app.
- Upgraded several dozen Visual Studio project files to the 2017 format, decreasing verbosity and improving functionality.

Engineering Intern, Genefluidics — May 2016 – August 2016

- Developed software in C, C++, and Python for the design and validation of electromechanical components of a robotic medical diagnostic automation system.
- Wrote a program in Python to detect the presence of liquid droplets using a thermal imaging camera, the computer vision library OpenCV, and Raspberry Pi as a prototyping platform.

EDUCATION

M.S. Computer Science, GPA: 3.74 — December 2018
B.S. Mechanical Engineering, GPA: 3.72 — May 2016
University of Southern California

UI/UX Design Specialization Certificate (90 hours) — November 2021
California Institute of the Arts on Coursera

SKILLS AND INTERESTS

- **SKILLS** C# .NET, React.js, JavaScript, TypeScript, HTML5, CSS/SCSS/Saas, Node.js, React Redux, Jest, GIT, SVN, TCP/IP, UI/UX design, Balsamiq Wireframes, Figma, Jira, Agile development, Test-driven development
- **INTERESTS** Road cycling, Skiing, Basketball, STEM education, Animal welfare