Samuel Patrick Birus

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Education

University of Pittsburgh, Swanson School of Engineering **Aug 2015 - Present**
Major: Computer Engineering Cumulative GPA: 3.59 Expected Graduation: Aug 2019
Relevant Coursework: Algorithm Implementation, Software Engineering, Android Programming, Web Apps, Computer Organization, Computer Architecture, Data Structures, Advanced Digital Design

Core Competencies

Languages: Java, C#, JavaScript, C++, Python, Flask, CSS, HTML, C, Ruby, CUDA, .NET, React.js, JavaFX, MySQL
OS & Tools: Android Studio, Linux, Team City, Selenium, PCB Design, HDL Designer, Altium, Git, TFS, Machine Learning
Methodologies: Agile Development, Automated Software Testing, SW Development Processes like Unit Testing, Code Reviews

Work Experience

Software Developer & Test Automation Engineer Co-Op | ANSYS Inc **Sept 2017 – Present**

- Developed test automation tool used to test the Additive Manufacturing (AM) and other features of Ansys's core software product. Used C# and MySQL to enhance client, server and website applications that automatically execute JavaScript and Python test suites. Also wrote manual and automated tests for new and existing AM product features.
- Enhanced internal website to better identify, sort, and group any test failures. Used C# and REST APIs to gather and store data in local MySQL database. Greatly reduced time that Software and QA Engineers needed to find and resolve failing tests.
- Led a 4-person project team tasked with improving User Experience of AM features. Clients were having difficulty setting configuration parameters and input values as these were located throughout the large Ansys product. This project created a new UI sidebar that gathered all relevant configurations and input values in one place for customers to quickly access.

Undergraduate Teaching Assistant | University of Pittsburgh **Jan 2018 – Present**

- Assisted professors with teaching students intermediate Java skills such as understanding Object Oriented Programming.
- Provided students tutoring and programming help in the Computer Resource Center.

Freshman Engineering Conference Co-Chair | University of Pittsburgh **Jan 2017 – Apr 2018**

- Advised students in writing and presenting research papers about a Computer Engineering topic of interest.
- Arranged meetings between students and professionals to discuss industry standards and trends.

Projects

- Online Connect4 Web Application
  - Designed a Connect4 game using python Flask as a back end and Javascript on the front end.
  - Developed online multiplayer game that used XMLHttpRequests and REST API to track token placements
- Interconnected Android application
  - Led a team of 5 to produce a scavenger hunt Android application focused in the city of Pittsburgh. As leader I was tasked with ensuring our application interconnected with other teams applications using broadcast receivers, intents and IPCs.
- CPU Architecture Design
  - Worked in a team using HDL Designer, Quartus, and ModelSim to design a 32-bit CPU architecture from scratch. Wrote VHDL components and finite state machines that support 20+ MIPS instructions. Transferred to FPGA and fully tested to ensure correctness.

Leadership, Activities and Honors

Study Abroad - China, Summer 2016

- Two-week study abroad in China focusing on smartphone manufacturing in Beijing, Shanghai, Shenzhen, and Hong Kong.
- Toured Huawei and TE Connectivity and learned about the process and design that goes into producing smartphones and telecom equipment.

Awards

- Awarded the rank of Eagle Scout from Boy Scouts of America.
- Swanson School of Engineering Honors Student for all 6 semesters at the University of Pittsburgh.

College clubs/Activities

- Business Manager of the Pitt Handball Club (2015-present). Responsible for all financial transactions and interfacing with the university's club office administration.
- Participated in an entrepreneurship week long session focusing on pitching ideas to endorsers.