

Education

University of Michigan, College of Engineering
B.S.E. in Computer Science Engineering, Math Minor
GPA: 3.76/4.00

April 2017

Programming Languages

Highly Proficient: C++, Python, C#, C, JavaScript
Experience with: SQL, Swift, Bash, Make, Java, MATLAB

Relevant Projects

<https://github.com/buechechristian>

MHacks8

NeuroCritic

- › Adapted an LSTM network to predict art reviews character-by-character through machine learning
- › Scraped and cleaned the HTML from art blogs for training dataset
- › Seeded neural net with image description using Microsoft's Cognitive Services Computer Vision API

The Boeing Company

Active Directory Admin Tool (ADAT)

- › Developed new, user-centric front-end for deployment of web application to entirety of the enterprise, with an estimated minimum cost saving of \$500,000 over the first 5 years
- › Added features including Amazon-like single search bar, filtering, result table modifications to production directory system, downloadable search results

Application Database Services (ADS) website

- › Designed, coded, and implemented a new customer-facing website for ADS department
- › Consolidated multiple content sources into a single entity to support 120 DBA's with a \$23M operating cost

University of Michigan Coursework

Introduction to Computer Security (EECS 388)

- › Conducted application attacks (buffer overflows), cryptographic attacks (length-extension, hash-collision, Bleichenbacher's), web attacks (XSS, SQL injection, CSRF)
- › Penetration tested a closed system

Web Databases (EECS 485)

- › Full-stack developed a social networking, picture-sharing web application, and a search engine utilizing tf-idf and PageRank statistics

Student Space Systems Fabrication Laboratory | University of Michigan

Miniature Tether Electrodynamics Experiment (MiTEE)

- › Programmed mission critical embedded software in C on T.I.'s MSP430FR5969 microcontroller
- › Designed and implemented SPI communication protocol between main and subsidiary processors

The Stryker Corporation

Firmware Upgrade Tool

- › Designed using MVVM pattern in C# WPF and consulted with end-users for needed features
- › Spearheaded full-stack development to service the branch's most profitable product, the SwitchPoint Infinity 3

Work Experience

The Boeing Company - Software Development Intern

Summer 2016

Student Space Systems Fabrication Laboratory - Software Developer

Winter 2015 – Fall 2015

Stryker Corporation - R&D Software Engineering Intern

Summer 2015

Distinctions

- › University Honors, 2 semesters
- › Dean's List, all semesters
- › University of Michigan Regents Merit Scholarship
- › University of Michigan Alpine Ski Team