Douglas J. Smith

Email: dougjs@proton.me
Website: https://dsmith47.github.io/defragment-memory-hugo/
LinkedIn: https://www.linkedin.com/in/dsmith47
GitHub: https://github.com/dsmith47

WORK EXPERIENCE

Capital One   New York, NY
Senior Software Engineer, Backend   *April 2023 - Present*
- Modernizing internal data transfer by implementing API presenting new data models with technical support for existing mainframe storage as well as migration support for new storage systems
- Modeling data for new internal APIs by mapping legacy data models to planned business use cases
- Maintaining product security and reliability by participating in regular vulnerability remediation work and production support pager rotations

Google   Seattle, WA
Software Engineer II, Cloud Billing   *July 2019 - April 2023*
- Improved billing UX with 24x more granular cost detail (hour-level detail instead of day-level) by processing large amounts of data at low latency via batch-processing pipelines written in Java
- Achieved 30x throughput increase by designing and implementing the necessary queuing systems and priority heuristics to further parallelize processing without decreasing latency
- Implemented custom monitoring systems for all processing to ensure data correctness
- Increased product uptime by participating in oncall pager rotation with 24/7 issue response SLA
- Reduced oncall workload by leading initiative to document and automate high-toil processes

Software Engineering Intern, Cloud Kubernetes   *May 2018 - August 2018*
- Reduced barriers to launch and operate Kubernetes clusters on GCP by extending console-emulation frontend to support product-specific commands
- Increased frontend usability by improving frontend documentation and authorization workflow

Engineering Practicum Intern, AdSense   *May 2017 - August 2017*
- Performed analysis of counterfactual tests for Google AdSense algorithms by implementing a system for comparison of experiments as a C++ post-processing pipeline
- Increased clarity of counterfactual testing results by developing an Angular2 web application to accept user field queries and display data in graphical format

Viakoo   Mountain View, CA
Machine Learning Intern   *January 2018 - May 2018*
- Added universal computer-vision-based insights (e.g. anomaly detection) to universal device-management system by developing a system for converting images gathered from security cameras to TensorFlow data structures
- Increased coverage of universal device processing application by implementing general support for http-based camera devices and implementing driver for a web-based security camera brand

Crcl   Notre Dame, IN
Project Manager and Developer, Android and Web Teams   *August 2016 - January 2018*
- Contributed to common UX specification for a venue-reviewing social media application by participating in graphic design and usability brainstorming sessions
- Implemented specified UX as Android application in Java interacting with REST API
- Increased available SWE hours and supported web development by assisting in technical reviews and contributing coding work to achieve critical deadlines

ND Department of Film, Television, and Theatre   Notre Dame, IN
Datadase Admin/Teaching Assistant   *August 2016 - May 2017*
- Managed student work scheduling for Theatre department by implementing a scheduling application using PHP and PostgreSQL
- Provided Platform-as-service management for application on Heroku and migrated to hosting company infrastructure for increased flexibility

Mercatus   San Mateo, CA
Software Intern   *February 2016 - March 2016*
- Automated production of Excel spreadsheets and PowerPoint Presentations summarizing data from corporate tools (including GoodData, Jira, and ZenDesk) with python scripting

Promazo   Notre Dame, IN
Web Developer   *March 2016 - August 2016*

- Maintained 1.0 version of job-matching sites for college students
- Implemented 2.0 version of company website using Django REST API serving AngularJS application

11trees   Remote
Software Developer   *April 2015 - January 2017*
- Designed tool for extending copy/paste functionality for Google Chrome users by leveraging Chrome Extension Framework and Context Menu API
- Implemented user-specific configurations for functionality by using Chrome Extension state transfer API

EDUCATION

University of Notre Dame   Notre Dame, IN
Bachelors of Science and Engineering   *August 2015 - May 2019*

RESEARCH

University of Notre Dame
Operating Systems   *August 2018 - May 2019*
- Writing code and documentation to implement UNIX-like inode interface for a simplified operating system used in teaching Operating Systems principles

Computational Creativity   *August 2018 - May 2019*
- Researching techniques for AI interactions with music by constructing an AI system capable of training on audio files and producing novel outputs

Human-Computer Interaction   *September 2016 - December 2017*
- Implemented tooling for monitoring user and their environment simultaneously by implementing iOS application for manipulating two cameras simultaneously using Swift
- Automated creation of D3-readable JSON structures from survey data via python script

National Tsing Hua University
Embedded Systems Research   *May 2016 - August 2016*
- Designed system for dynamically testing circuits and fault lists for identical faults with a C++ binary that decomposed fault descriptions to test for equivalent outputs
- Refactored ABC circuit modeling library to function with C/C++ executables, optimizing for modeling purposes

SKILLS

Languages: Java, Python, GoLang, C/C++, JavaScript/TypeScript

Concepts: Distributed Computing/Cloud Computing, Machine Learning/AI, API Design, Object Oriented Programming, Functional Programming

Programming Tools: Bash Scripting, Version Control (Git, Mercurial, Perforce), Amazon Web Services (AWS), Google Cloud Product (GCP)

Team Skills: Agile Development, Test Driven Development, Documentation