David N. Gaster

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Experience

Workday, Software Development Engineer — *SF Bay Area, CA*

Integrations, Identity and Search Team — *Sep 2019 - Present*

- My team develops REST API's and backend services for business intelligence and data infrastructure.
- iValidator and CI/CD
- Enabled static code analysis, source code control and automated deployment in SnapLogic for 30+ citizen developers.
- Static code analysis is estimated to save $1M+ in resources and technical debt for all of Business Technology.
- CI/CD has cut deployment times by 80% for 40+ integrations maintained by our team, saving significant time per deployment.
- Learning Extended Enterprise
- Worked with cross functional teams to deliver the integrations which are the backbone of Workday's new and improved learning platform.
- These integrations are responsible for managing all 60,000 learners' curriculums, certifications, and affiliations.
- Our team enabled Single Sign-On (SSO) for all customers and achieved 18,000 unqiue successful logins within the first 24 hours.
- The iValidator static code analysis project helped to catch many errors that would have arised during the release.
- MAC Address Tracker
- Developed an end-to-end centralized management website that interfaces with Aruba's ClearPass API's.
- It allows seamless modification of static host lists (whitelisted or blacklisted MAC addresses) across teams at Workday.
- This was the first website I had ever built from the ground up, which is awesome! I learned React, Node.js, and various Amazon Web Services (EC2, Lambda, S3, Secrets Manager, API Gateway and RDS).

Blitzz, Data Engineer Intern — *San Mateo, CA, July 2018 - Oct 2018*

- On the cloud native data replication team, I worked on a query parser in Haskell to translate between dialects of SQL.
- Automated query migration from one legacy data warehouse to another, such as MySQL to PostgreSQL.
- Created the abstract syntax tree for queries. The parser translates select, from, where, group by, having, order by, joins and case statements.

UCSD Computer Science Department, Academic Tutor — *La Jolla, CA, Jan 2018 - June 2018*

- Advanced Data Structures in C++ (CSE 100), Object-Oriented Programming in Java (CSE 11).
- Worked closely with faculty, assisted students to meet educational goals, facilitated group discussions in lecture and held office hours.

Skills

Languages Python, Java, C/C++, Javascript, Golang, Haskell

Technologies AWS, MySQL, SnapLogic, Jenkins, React, Node.js, JWT Security

Education

Computer Science, B.S. University of California, San Diego, — *La Jolla, CA, Sep 2016 - June 2019*

- **Clubs & Honors**: Provost Honors, Tau Beta Pi Engineering Honor Society, Computer Science and Engineering Society
- **Relevant Courses**: Advanced Data Structures, Algorithms, Compilers, OS, ML, AI, NLP, Complexity Theory, Security, RDBMS

Operations Research, B.S. Candidate Cornell University, — *Ithaca, NY, Aug 2012 – Aug 2014*

- **Clubs & Honors**: Dean's List, Human-Powered Electricity Generation Team, Cornell International Affairs Society
- **Relevant Courses**: Linear Algebra, Stochastic Processes, Engineering Probability & Statistics, Differential Equations

Projects

Fox (Programming Language)

- Using Haskell, I built a programming language and compiler that is similar to Python.
- The language supports complex programming constructs including type inference, function calls, recursion, data structures (lists, tuples, trees), static/run time type checking, and a garbage collection system in C.

N-gram Machine Learning Model

- Using the Python NLTK library, I built trigram, bigram, and unigram language models.
- Implemented Laplace smoothing and analyzed the improvements on the perplexity of each dataset.
- After tuning hyperparameters, the model has the ability to auto-generate real sentences.

Personal Interests chess, rubik's cubes, tennis, skiing, soccer, surfing, basketball, hiking, photography