

Brad Schwartz

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Education

University of Michigan, College of Engineering

2014–2018

- **Major:** Data Science Engineering **Minor:** Physics

Experience

Software Engineer, Capital One

Plano, TX; July '18–Present

- Transitioned core auto finance decisioning engine from weekly batch process to real time API for declining delinquent credit card customers, leading to fewer breakdowns due to data issues and decreasing unintended lending by 5%
- Split 10 year old PL/SQL stored procedure into microservice based platform for sending explanatory letters when auto loans are not granted, resulting in fewer breakdowns, higher monitoring in the form of Splunk dashboarding, and fixing multi-year regulatory issue
- Rebuilt internal web application for tracking auto loan applications, integrating a Java back-end for pulling historical data from Snowflake and displaying through an Angular 6 front-end
- Overhauled cloud infrastructure, utilizing Jenkins pipelines and Docker-ized deployment tools to automate manual processes and allow for push-button deployment of code to Elastic MapReduce clusters and 25% cost-savings
- Facilitated the migration of multiple data streams across AWS Virtual Private Clouds and enablement of HTTPS traffic, allowing for a single source of truth for regulatory data and tighter restrictions on data access

Big Data Intern, Cloud Innovation Lab, Western Digital Corporation

San Jose, CA; Summer '17

- Extended Python scripts used for automatic tagging of Amazon Web Services resources in order to achieve better tracking of usage and cost, and more thorough report generation
- Built and deployed a Flask web application using Docker containers, integrated with AWS Elastic Container Service and AWS ElastiCache, allowing for a load-balancing service with a responsive delivery system
- Deployed multiple internal web applications, identifying key issues with firewall port and application blocking while gaining familiarity with networking protocols and server-side development

Research Assistant, UofM High Dimensional Data Analysis

Ann Arbor, MI; Oct. '15–May '17

- Implemented an alternative solution to the Iterative Closest Point problem in Python to create a new matching algorithm involving a series of non-rigid motions
- Reviewed mathematical publications in order to derive useful metrics for point registration problems
- Explored the results of different algorithms on real world data sets for the purpose of creating a more accurate algorithm and understanding the properties of different formula and metrics
- Created models of new algorithm, using near-isometric and near-Euclidean linear transformations to verify predictions

Research Assistant, ATLAS Collaboratory Project

Ann Arbor, MI; Summer '15

- Assisted in calibration of ATLAS detector at European Organization for Nuclear Research (CERN)
- Participated in studies of detector measurements, analyzing possible future and reoccurring problems to ensure collected data is complete and accurate for future research
- Created data analysis programs using C++ and CERN-created analysis framework to test detector measurements

Technical Skills

Programming Languages

- Python, Java, Bash, SQL, TypeScript, C++, L^AT_EX, Spark/Scala

Software Technologies & Frameworks

- Amazon Web Services, Git, Docker, Jenkins, Ansible, Apache Spark, Angular

Certifications

- Amazon Web Services Solutions Architect Associate