Brad Schwartz

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Education

University of Michigan, College of Engineering 2014–2018

- **Major**: Data Science Engineering **Minor**: Physics
- Creator at SHIFT Creator Space Fall '15
- Member of Pensacola Swing Dancing Club Fall '14–Fall '18

Experience

Data Engineer, **Regulatory Finance**, Capital One Richmond, VA; July '18–Present

- Overhauled cloud infrastructure, utilizing Jenkins pipelines and Dockerized deployment tools to automate manual processes and allow for push-button deployment of code to Elastic MapReduce clusters and 25% cost-savings
- Built Python framework around modular Apache Spark application, integrating enterprise tools for secret management and data validation, catching bugs earlier in development lifecycle and shortening time to reach production
- 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
- Heavily involved in Technology and Development committees, devoted to teaching new technology and personally authored and led an 8-week learning series to get employees AWS Solutions Architect Associate certified

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, Bash, C++, LaTeX, SQL, Spark/Scala

Software Technologies

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

Certifications

- Amazon Web Services Solutions Architect Associate