300 E. Jefferson
Ann Arbor, MI, 48104, USA

Tel.: (248) 881-2296
Email: baschwa@umich.edu

BRAD SCHWARTZ

EDUCATION

- **University of Michigan - College of Engineering (Graduation: May 2018)** 2014 - 2018
  - **Major:** Data Science Engineering **Minor:** Physics
  - Creator at SHIFT Creator Space Fall '15
  - Member of Pensacola Swing Dancing Club Fall '14 – Present

- **Engineering Summer Study Abroad, Technical University of Berlin**
  - Attended daily seminars focused on the usage, price, and efficiency of renewable energies, analyzed how sustainable methods impact both Berlin and Germany as a whole
  - Cooperated with 16-person team to develop portable solar charging stations from recycled materials, in order to meet energy needs of two environmentally low-impact refugee groups
  - Fabricated solar panel travel case and support stand with angular adjustment, ensuring maximum efficiency during sunlight hours and protection from climate
  - Assisted in creation of final reports and presentation of project on holistic and individual basis

RELEVANT CLASSES

- SI 650 – Information Retrieval (F '17)
- EECS 492 – Introduction to Artificial Intelligence (F '17)
- EECS 388 – Introduction to Computer Security (F '17)
- EECS 445 – Machine Learning (W '17)
- EECS 484 – Database Management Systems (W '17)
- EECS 398 – Information Theory (W '17)
- EECS 281 – Data Structures and Algorithms (F '16)
- EECS 280 – Programming and Data Structures (W '16)

EXPERIENCE

- **Big Data Intern**, **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 better report generation
  - Built and deployed a Flask web application using Docker containers, integrated with AWS Elastic Compute Cloud Container Service and AWS ElastiCache, allowing for a load-balancing service with a responsive and quick information 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**, **University of Michigan High Dimensional Data Analysis** Ann Arbor, MI October '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 involving similarity and geometry
  - 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 metric
  - Created models and examples of new algorithm, using near-isometric and near-Euclidean linear transformations to verify predictions

- **Research Assistant, ATLAS Collaboratory Project** Ann Arbor, MI Summer '15
  - Participated in calibration of ATLAS detector at Large Hadron Collider 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++ language and CERN-created ROOT data analysis framework to test detector measurements

TECHNICAL SKILLS

- **Programming Languages:** Python, C++, Bash, LaTeX, SQL, Java/JDBC, R
- **Software Technologies**: Docker, Git, Ansible, Amazon Web Services, Flask, Jinja2

HOBBIES & INTERESTS

- **Travel:** Solo-backpacked across Europe, traveling through eight countries and 15 cities, experiencing many different cultures, cuisines, and landscapes, and hiking part of the East German Alps
- **Collections:** Have accumulated 200+ records which range across a variety of artists, genres, and eras
- **Achievements:** Two full completions of Super Mario Bros. 3 for the original Nintendo Entertainment System