Ian Wesley Armstrong

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Education

Kansas State University Manhattan, Kansas Expected May 2021
Bachelor of Science in Computer Science and Applied Mathematics
- 3.56 GPA
- Deans's List

Czech Technical University Prague, Czechia January 2019 - May 2019
Bachelor of Science in Information Technology
- Relevant Coursework: Data Mining, Introduction to Artifical Intelligence, Database Systems

Experience

Commerce Bancshares IT Intern (DevOps/ETL) June - Present
Enterprise Data Warehousing
- Automated build of containerized Data Science development environments using Puppet and Docker.
- Build consistent environments with Anaconda to manage Python/R packages and connectivity to Teradata, SQL Server and Hive.
- Implemented Airflow as a job scheduler, enabling Data Scientists to develop workflow graphs and create robust pipelines for implementing models into production.

Kansas State University Undergraduate Research Assistant January 2018 - Febrary 2019
Department of Biochemsitry and Molecular Biophysics
- Contributed to the development of ORGANIC, a Python/Tensorflow framework to generate novel molecules.
- ORGANIC utilizes Neural Networks coupled with an additional reinforcement learning component to bias generated compounds towards desired physical/chemical properties.
- Decreased runtime of ORGANIC by 40% by altering an algorithm to improve GPU memory usage, allowing for more efficient usage of our computing resources.

Projects

Data Warehouse
- Created a data warehouse for storing data about various financial instruments, including hourly forex data for 172 currency pairs.
- All infastructure is hosted in Docker containers, and Airflow is used to manage all ETL processes.
- Time-series data is stored in TimescaleDB, while unstructured data is stored in HDFS.

Ant Colony Optimization
- Implented Ant Colony Optimization heuristic in Python to find the shortest path between 1000 U.S. Cities.
- The shortest path is visualized by plotting each city in the order visited with a color gradient corresponding to the order.

Skills and Training

- **Languages:** Python, Bash, SQL, Java, Ruby, R, Scala, C#, C/++, MATLAB
- **Frameworks/Packages:** Puppet, Docker, Airflow, TensorFlow, Hive, AWS, Git, Artifactory

Extracurriculars and Awards

- College of Arts & Sciences Undergraduate Research Award
- Delta Sigma Phi Fraternity - Director of Design — Responsible for designing apparel for 120 Members
- Association for Computing Machinery - Open House Chair
- Eagle Scout, Boy Scouts of America, 2014