Tyler Trine

11 Walley Street, Boston MA 02128 | (315)-350-1812 | trine.tyler@gmail.com | ttrine | tyler-trine

Summary

Skilled data science researcher and software engineer. 4+ years of experience applying statistical modeling techniques, including deep learning, to automate complex tasks. Proven excellence in technical communication, including key contributions to a grant proposal selected for a $5.8 million award.

Experience

Systems and Technology Research Woburn MA
Senior Researcher *July 2017 - Present*

Data science R&D on challenging national defense problems.

Responsibilities

- Prototype, tune, productionize, and deploy a wide variety of statistical models to automate complex tasks
- Design, implement, test, dockerize, and deploy efficient, massive-scale data processing algorithms
- Technical communication, including presenting results to stakeholders and writing grant proposals

Key Achievements

- Proposed Bayesian approach to automated software assurance. Proposal selected for $5.8 million award
- Designed and implemented fast probabilistic solution to NP-hard subgraph isomorphism problem
- Designed and implemented matrix factorization model of individual behaviors in online groups

1010data New York NY
Data Scientist *July 2016 - July 2017*

Software development and data analysis over a distributed NoSQL database for billion-record datasets.

Responsibilities

- Optimize database queries for distributed execution
- Write custom database access management software
- Develop linear models of sales as a function of ad exposure

Personal projects

The Nature Conservancy Fisheries Monitoring *December 2016 - April 2017*

- Implemented novel CNN to classify fish species. Regularized via batch normalization, data augmentation
- Trained models on cloud GPUs, evaluated and analyzed results in R

AlphaGo replication *January 2016 - May 2016*

- Analyzed AlphaGo paper and construct good-faith implementation with a group of graduate students
- Implemented convolutional policy and value networks in Tensorflow

Education

University of Rochester Rochester NY
B.S. Data Science *September 2012 - May 2016*

- Rigorous education in both computer science and statistical learning theory
- Selected coursework
  - *Data Science Practicum.* Open source replication of AlphaGo, a Go AI built on CNNs
  - *Database Systems.* SQL, data models, DDLs, ACID, normalization, NoSQL databases
  - *Computer Science Courses.* Computer Programming, Data Structures, Algorithms
  - *Math Courses.* Probability, Mathematical Statistics, Linear Algebra, Discrete Math

Technical Skills

Machine learning Supervised training, testing, and validation; unsupervised density estimation, probabilistic graphical models, recommender systems
Deep learning TensorFlow, Torch, GPU deployment, CNNs for image classiication, data augmentation, transformers for sentiment analysis

---

Software engineering Git workflows, Docker, CI/CD, test-driven development, cloud deployment, object-oriented programming
Data engineering PostgreSQL, NoSQL databases, ETL pipelines, data warehousing, REST APIs
Programming languages Python, R, Java, Bash