Sterling Suggs

swsuggs@student.byu.edu · +1 209 843 0298

Education

- **M.S. Computer Science, GPA: 3.93/4**
  Brigham Young University
  ML emphasis
  Thesis: *Reinforcement Learning with Memory Networks*
  2021

- **B.S. Applied Mathematics, GPA: 3.91/4**
  Brigham Young University
  CS minor
  2017

Experience

- **BYU Computer Science Dept.**
  Research Assistant — Provo, UT
  - Researched applications of auxiliary memory in deep reinforcement learning, in areas of sample efficiency, representation learning, and meta-learning
  - Designed and implemented three memory models with read and write functions to efficiently query and update a huge network layer
  - Devised experiments to test models' ability to adapt to new data and learn faster than pure gradient propagation
  September 2017 onward

- **Veracity Forecasting and Analysis**
  Software Engineer — Brigham City, UT
  - Codeveloped a simulation of the Navy Enlistment Supply Chain which the Navy will use to identify and relieve bottlenecks
  - Programmed physics-based model of solid rocket motor fuel to improve prediction of failure
  - Created application to automate data scraping for a human resources project
  April 2016 to April 2017

- **BYU Mathematics Dept.**
  Developer — Provo, UT
  - Drafted and refined new scientific computing and data science programming labs for university curricula
  - Wrote new course material to teach math majors Python programming
  October 2015 to April 2016

Skills

- **Technologies**
  Python, C++, Java, Pytorch, Tensorflow, Pandas, Scipy/Scikit-learn, MongoDB, Selenium, LaTex

- **Platforms and Project Management**
  Linux, AWS, Bash, Slurm, Docker, Git, Mercurial

Papers implemented

- **AlphaGo Zero** `[deepmind.com]`
  Reinforcement learning meets tree search to learn a two-player game through self-play

- **DQN** `[deepmind.com]`
  A deep neural network achieves superhuman performance on Atari video games

- **True Online TD(λ)** `[proceedings.mlr]`
  Classic TD(λ) is improved with an algorithm that allows more frequent value updates

- **Linear High-D Interpolation** `[ams.org]`
  A simplex method sidesteps the curse of dimensionality to interpolate efficiently in high dimensions

Extracurricular books

- *Reinforcement Learning: An Introduction*, Sutton and Barto, 2018

- *Machine Learning*, Kevin Murphy, 2012

- *Deep Learning*, Goodfellow, Bengio, Courville, 2015

- *The Elements of Statistical Learning*, Hastie, Tibshirani, Friedman, 2001

Relevant coursework

- **Math**
  Algorithm Design and Optimization, Control Theory, Bayesian Statistics, PDEs, Mathematical Analysis

- **Computer Science**
  Multi-agent systems, Computer Vision, Deep Neural Networks, Computational Creativity