Ethan Brooks

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Education

May 2018 **UNIVERSITY OF PENNSYLVANIA** *Master of Science in Engineering in Computer & Information Science*

May 2010 **ST. JOHN'S COLLEGE, ANNAPOLIS** *Bachelor of Arts in Philosophy and History of Mathematics*

Machine Learning Courses and Skills

COURSES	FRAMEWORKS	LANGUAGES	SOFTWARE	FUNCTIONAL
Intro to Machine Learning	Tensorflow	Python	ROS	Haskell
Integrated Intelligence for Robotics	Torch	Lua	CUDA	Ocaml
GPU programming and architecture	Scikit-learn	C/C++	Docker	Coq

Research/Projects

Dec 2016 **COMPUTATIONAL GRAPH PROGRAM (RUST)**
Optimizes arbitrary functions using backpropogation. Uses CUDA and CUBLAS to perform operations on matrices. Supports implementation of deep learning architectures. https://github.com/lobachevzky/computational-graph

Spring 2016 **APPLYING NEURAL TURING MACHINES TO HEADLINE GENERATION (THEANO/TENSORFLOW)**
Research under Dr. Lyle Ungar to adapt Neural Turing Machines to sequence-to-sequence modeling in order to generate headlines from single sentence excerpts. https://github.com/lobachevzky/headline

May 2015 **FX-PREDICTOR (OCAML)**
Predicts up/down financial currency movements using original implementation of Naïve-Bayes algorithm. https://github.com/Lobachevzky/fx-predictor

Work Experience

Summer 2017 **GOOGLE, INTERN WITH ANDROID LOCATION AND CONTEXT TEAM**
Researching applications of recurrent neural networks to predict semantic locations of users.

Spring 2017 **GEORGIA TECH RESEARCH INSTITUTE, RESEARCH INTERN**
Researched applications of policy gradient methods to quadcopter navigation. Developed programs for training robots with TRPO/A3C algorithms, using Ros and Gazebo.

Summer 2016 **APPLE, INTERN WITH SIRI NATURAL LANGUAGE TEAM**
Built attention-based deep-learning algorithms in Torch in order to improve sentence classification. Streamlined word classification architectures using Scikit-Learn (SVM, Boosted Decision Tree, etc.).

2010 – 2015 **UNITED STATES MARINE CORPS, INTELLIGENCE OFFICER (CAPTAIN)**
Built a new intelligence section from the ground up, introducing capabilities to the organization including intelligence analysis and security management. Led and mentored as many as 20 Marines at a time, supervising their work, planning their training, and attending to their personal welfare. I previously held a top secret clearance and currently have a secret clearance.

Notable Achievements

- Presented numerous publications at weekly Penn NLP and Computational Neuroscience seminars.
- Published "Hazing Versus Challenging" in the August 2014 edition of the Marine Corps Gazette. Discussed the tendency for hazing to proliferate in environments where Marines are not challenged.
- Awarded St. John's College "Prize for the Most Elegant Solution of a Geometric Problem."