Wilka Carvalho

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RESEARCH INTERESTS: Variational inference, generative adversarial networks, and reinforcement learning.

EDUCATION

UNIVERSITY OF MICHIGAN–ANN ARBOR
PH.D. IN COMPUTER SCIENCE
Expected May 2022 | Ann Arbor, MI

UNIVERSITY OF SOUTHERN CALIFORNIA (USC)
M.S. IN COMPUTER SCIENCE
Viterbi School of Engineering
Grad. May 2017 | Los Angeles, CA
GPA: 3.5

STONY BROOK UNIVERSITY (SBU)
B.S. IN PHYSICS
Grad. May 2015 | Stony Brook, NY
GPA: 3.5
Dean's List (2011-2015)

SERVICE

- Student Volunteer, ICLR, 2017
- USC Graduate School Panel, USC, 2016
- NSBE Research Panel, USC, 2016
- SHPE Graduate School Panel, USC, 2016
- Black Student Association, USC, 2016
- Calculus Instructor, SBU, 2015
- EOP Personal Tutor, SBU, 2015

SKILLS

RESEARCH
Learning Algorithms
Computational Modeling
Project Design
Large Library Development

PROGRAMMING
Python • C++ • C • LaTeX
MatLab • Javascript • PHP • HTML

SOFTWARE
Tensorflow • Theano • Keras • Neuron

SOFT SKILLS
Creative • Critical Thinker
Excellent Writer and Communicator
Time- and Task-Management
Independent • Self-motivated

INTERESTS

traveling • chess • software development
improvisational dance • deadpan humor

EXPERIENCE

IBM | MACHINE LEARNING RESEARCH INTERN
IBM Research | Sep 2017 – Present, San Jose, CA
- Contributed to novel research algorithm by suggesting subspace projection technique that increased our performance from 15% to 95% accuracy. Designed and implemented environment for testing algorithm.
- Developed baseline and state-of-the-art neural networks using Tensorflow.
- Built data pipeline for large image dataset.

VISA | MACHINE LEARNING RESEARCH INTERN
Visa Research | Jun 2017 – Aug 2017, Palo Alto, CA
- Formulated a novel neural network for learning a language model.
- Implemented model and baselines for language generation and question answering using Tensorflow and Facebook's ParlAI NLP software.
- Performed extensive literature reviews on machine reading comprehension and generative models.

UNIVERSITY OF SOUTHERN CALIFORNIA | RESEARCH ASSISTANT
Machine Learning Group | Nov 2015 – May 2017, Los Angeles, CA
- Implemented novel transfer learning neural network.
- Wrote introduction, methods, discussion, and summary of co-first author papers published at NIPS and ICLR.
- Communicated research to general public through research feature by the USC Graduate School and to technical audience at ICLR poster presentation.
- Awarded runner-up for best machine-learning application poster at SCML symposium. Worth $1000 in Amazon AWS credit.

STONY BROOK UNIVERSITY | NSF LSAMP SCHOLAR
Nuclear Physics Group | Jan 2013 – Aug 2015, Stony Brook, NY
- Built and maintained a simulator in C++ for the heavy ion particle detector at the Brookhaven National Laboratory.
- Contributed methods from multivariate calculus and linear algebra to particle detection algorithm. Accuracy improved from 60% to 80%.
- Designed and implemented a statistical analysis pipeline for measuring efficacy of particle detection algorithm.
- Presented research and won 2nd place in math and physics category at state conference.

CALTECH | HHMI RESEARCH FELLOW
Emotion & Social Cognition Laboratory | Jun 2014 – Aug 2014, Pasadena, CA
- Formulated a behavioral experiment to study human inference.
- Built online platform to administer psychology experiments using Javascript, PHP, and HTML.

FELLOWSHIPS & AWARDS

- University of Michigan Rackham Merit Fellowship (2017)
- **GEM National Fellowship sponsored by IBM (2017)**
- ICLR Travel Award (2017)
- **National Science Foundation Graduate Research Fellowship (2015)**
- **SBU Provost Award for Academic Excellence (20/4000 graduates chosen) (2015)**
- SBU Researcher of the Month (1 school-wide monthly) (2014)
- National Achievement Scholarship Finalist (top 5% nationally) (2011)