MICHAEL NEUDER

michaelneuder.github.io – michael.neuder@gmail.com – google scholar page

EDUCATION

University of Colorado, College of Arts and Sciences August 2015 - May 2020
Bachelor's in Computer Science, Bachelor's in Mathematics *Boulder, CO*

- Computer Science GPA: 3.97 – Overall GPA: 3.85
- Studied abroad at University of Oxford, UK, Spring 2018
- Honorable Mention in Computational Research Association's Undergrad Research Award

INDUSTRY EXPERIENCE

Google May 2020 - August 2020
Software Engineering Intern *TBD*

- Incoming Summer 2020 intern

Google May 2019 - August 2019
Software Engineering Intern – Google Flights *Cambridge, MA*

- Built a tool to interact with internal airline data that reduces look up time by 100%
- Created a multi-threaded SQL Engine which improved query response time by $10x$ using async channels

Google September 2018 - December 2018
Software Engineering Intern – Google Cloud *Sunnyvale, CA*

- Built an automated pipeline which collects and cleans data, then trains and deploys machine learning models
- Integrated NLP algorithms into the Mobile Device Management system on the G Suite Platform

Lockheed Martin & Laboratory of Atmospheric and Space Physics Feb 2017 - Oct 2017
Software Engineering Intern *Boulder, CO*

- Created user friendly graphical applications using Python and C++ Qt Libraries
- Developed graphical application testing suites using EggPlant Functional software and the SenseTalk language

RESEARCH EXPERIENCE

Parkes Lab, Harvard University August 2019 - December 2019
Research Assistant under supervision of Dr. David Parkes and Daniel Moroz *Cambridge, MA*

- Studying off-policy deviations from the Proof of Stake and Proof of Work consensus protocols
- Exploring and categorizing the types of Smart Contracts being executed on the Ethereum blockchain.

Santa Fe Institute June 2018 - August 2018
Undergraduate Research Fellow: Summer 2018 REU *Santa Fe, NM*

- Created algorithms to extract animal paths from drone footage despite small animal size and camouflage
- Explored the research space of object tracking using software packages including YOLO and Faster RCNN

Bradley Lab, University of Colorado April 2017 - Present
Research Assistant under supervision of Dr. Elizabeth Bradley *Boulder, CO*

- Collaborated with an interdisciplinary research group to analyze time series climate data using information theory
- Developed and maintained the code base for the processing, analysis, and visualization of data

Mozer Lab, University of Colorado March 2017 - Present
Research Assistant under supervision of Dr. Michael Mozer *Boulder, CO*

- Implemented deep neural nets to analyze information content of text and predict human reading time
- Created Convolutional Neural Networks to evaluate image quality based on Computer Vision metrics

PUBLICATIONS

- J. Garland, T.Jones, **M. Neuder**, V. Morris, J. W. C. White, E. Bradley, "Anomaly Detection in Paleoclimate Records using Information Theory," *Entropy* **20**:931 (2018).
- **M. Neuder**, M. Mozer, "Image Evaluation Using Deep Learning," *Colorado Journal of Applied Mathematics* **Fall 2018 Edition**:43-54 (2018).
- J. Garland, T. Jones, E. Bradley, **M. Neuder** and J. W. C. White, "Climate Entropy Production Recorded in a Deep Antarctic Ice Core", Submitted, *Chaos*, arxiv preprint.

PROJECTS

Image Quality Analysis Code written to conduct research for Dr. Mozer in Python using Tensorflow
She A web app girlfriend simulator written in Ruby on Rails framework

TECHNICAL STRENGTHS

Programming Languages (Experienced) C++, Python, Perl, Java
Programming Languages (Proficient) SQL, Ruby, R, Javascript, MATLAB, bash, CSS, HTML
Tools git, TensorFlow, CUDA, Linux, macOS, Jupyter, LaTeX, Travis CI