

Michael Neuder

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EDUCATION

University of Colorado, College of Arts and Sciences

Bachelor's in Computer Science, Bachelor's in Mathematics

2015 - 2020

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

Software Engineering Intern

May 2020 - August 2020

Location TBD

- Incoming intern.

Google

Software Engineering Intern – Flights

May 2019 - August 2019

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

Software Engineering Intern – Cloud

September 2018 - December 2018

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

Software Engineering Intern

Feb 2017 - Oct 2017

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

Research Assistant under supervision of Dr. David Parkes and Daniel Moroz

August 2019 - December 2019

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

Undergraduate Research Fellow: Summer 2018 REU

June 2018 - August 2018

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

Research Assistant under supervision of Dr. Elizabeth Bradley

April 2017 - Present

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

Research Assistant under supervision of Dr. Michael Mozer

March 2017 - Present

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**, J. W. C. White, E. Bradley, "[An information-theoretic approach to extracting climate signals from deep polar ice cores](#)," *Chaos: An Interdisciplinary Journal of Nonlinear Science* **29**:101105 (2019). [arXiv](#).
- J. Garland, T. Jones, **M. Neuder**, V. Morris, J. W. C. White, E. Bradley, "[Anomaly Detection in Paleoclimate Records using Information Theory](#)," *Entropy* **20**(12):931 (2018). [arXiv](#).
- **M. Neuder**, M. Mozer, "[Image Evaluation Using Deep Learning](#)," *Colorado Journal of Applied Mathematics* **Fall 2018 Edition**:43-54 (2018).

PROJECTS

[Image Quality Analysis](#) [She](#)

Code written to conduct research for Dr. Mozer in Python using Tensorflow
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