

# Bryce Kroencke

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## Education

### University of California, Davis

Davis, CA

Bachelor of Science in Computer Science

GPA: 3.3

Graduated: June 2020

## Publications and Appearances

- Paper: "Large-Scale Mobile App Identification Using Deep Learning" IEEE Access, 2020, ISSN: 2169-3536
- Paper: "Automated Detection of Pitting and Stress Corrosion Cracks Using CNNs" arXiv:2003.03241
- Speaker: "The Abstraction of 3-D Biomolecular Structure and Property Data" Siam Conference WA, 2019
- Poster: "Open Neural Networks for Drug Discovery" Supercomputing Conference TX, 2018
- Hackathon: WePair - 1st Place - Most Social Good Impact HackDavis CA, 2020

## Work Experience

### UC Davis Encrypted Traffic Classification Research

Davis, CA

*Student Research Assistant*

November 2018 | Present

- Use modern machine learning methods - LSTM, RNN, and GCN models - to improve the accuracy of encrypted network traffic classification.
- Perform immense preprocessing on datasets for machine interoperability.

### Oak Ridge National Lab

Oak Ridge, TN

*Artificial Intelligence Research Intern*

June 2019 | August 2019

- Developed a pipeline for the real-time classification of corrosion in canisters containing spent nuclear fuel.
- Ran and monitored large-scaled jobs on GPU clusters.
- Created, curated, and augmented a large image dataset for training network models from scratch.

### Computer Science for Kids (CS4K)

Davis, CA

*Volunteer*

October 2018 | Present

- Introduce elementary school classrooms to computer programming and logical thinking using Scratch.
- Develop interactive lesson plans that simplify complex programming concepts into fun and intuitive games.

### Lawrence Berkeley National Laboratory

Berkeley, CA

*Computing Science Fellow*

June 2018 | August 2018

- Applied 3D DCNN and GCN machine learning models to computational chemistry related problems.
- Developed parallelizable algorithms to speed up time sensitive tasks.
- Deployed batch scripts on powerful supercomputing systems: NERSC's Cori and ORNL's SummitDev.
- Co-managed the GitHub for the open source project.
- Engineered scripts to pull and filter chemical data from online protein databases.
- Compiled project data into presentations for public speakings.

### ARC Design HUB

Sacramento, CA

*Computer Science Intern*

February 2018 | June 2018

- Combined design technology, programming, the arts, and interdisciplinary collaboration to develop ideas into products.
- Operated a variety of tools including: 3D printers, laser cutters, small CNC mills, lathes, and electronic controllers.

## Skills

Machine Learning:	Interpreting Models, Deep Learning, Data Mining, High Dimensional Datasets
Programming Languages:	Python, C++, Swift, Go, LISP, Prolog, LaTeX, Java, JavaScript
Git:	Version Control, Documentation via Wikis