Audrey Der

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EDUCATION

University of California, Riverside — **Riverside, CA**
Ph.D. in Computer Science — *September 2019 - June 2024*
Advisors: Eamonn Keogh, Evangelos Papalexakis

University of California, Riverside — **Riverside, CA**
B.S. in Computer Science — *September 2015 - June 2019*

SKILLS

- LANGUAGES AND TOOLS: Python (and Jupyter), C++, MATLAB, C, Java, Bash, SQL; LaTeX
- LIBRARIES: NumPy, PyTorch (and PyTorch Lightning), SciPy, scikit-learn, Pandas, Tensorflow, Apache Spark, Apache Lucene

PROJECTS

VQA (feat. BERT) — *May - June 2020*

- Course project. As a novel approach to the VQA problem, we used the BERT tokenizer as a feature extractor for the VQA2 dataset's questions and annotations while tracking the model's confidence.
- Researched model architectures, benchmarked architectures, implemented model, and designed experiments.
- Our model was 12% more accurate than implementations of the base SOTA model.

Password Cracking — *January 2019*

- MD5 password cracking; done in C++.
- Method Design: Divided up the permutation space into tenths, a weighted number of threads on each partition.
- Cracked in eight minutes on 32 threads, AMD Threadripper 2950x @ 4 GHz.
- Throughput: 3977.56 passwords/second.

WORK EXPERIENCE

University of California, Riverside — **Riverside, CA**
Undergraduate Research Assistant — *January 2018 - September 2019*

- Data sampling and using predictive models to explore the viability of research ideas.
- Data preprocessing for multiple grad students and their research.
- Built a tool whose input is a directory of CSVs and outputs plotted time series based on user specified criteria.
- Built a MATLAB GUI for a grad student that loads (or draws in the GUI) a time series data query and runs Mueen's Algorithm for Similarity Search (MASS), given some time series data, and displays the output.

ORGANIZATIONS AND ACTIVITIES

- Association of Computing Machinery (ACM), ACM-W, Cyber@UCR
- Citrus Hack Organization Committee (February 2016 - December 2017): **Director of Marketing**, **Director of Operations**
- ASME (April 2016 - April 2017): **Professional Development Chair**

AWARDS

Dean's Distinguished Fellowship Award — *February 2019*
University of California, Riverside