Raghav Verma

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EDUCATION

University of California, Irvine — *Bachelor of Science in Computer Science* *September 2016 - June 2020*

- Specializing in Artificial Intelligence, Bioinformatics and Networked Systems.
- Conducting research on networks under Dr. Scott Jordan, former CTO of the Federal Communications Commission.

WORK EXPERIENCE

University of California, Irvine *February 2019 - Present*

Research Assistant, Networked Systems *Irvine, CA*

- Developed a program that analyzes congestion at internet exchange points between autonomous systems using Python, SQL and the UC San Diego/CAIDA (Center for Applied Internet Data Analysis) Archipelago Internet measurement platform.
- Collaborated with researchers working at the San Diego Supercomputer Center developing the MANIC (Measurement and ANalysis of Internet Congestion) API.
- Results will be presented in the California State Senate to address a dispute between ISPs and content providers originating from the repeal of the 2015 Open Internet Order.

88.9 FM / KUCI RADIO *September 2016 – Present*

Radio Disc Jockey *Irvine, CA*

- Disc jockey on my own weekly hip-hop, post-rock, late '70s-80s British synthpop and experimental music radio station broadcasting throughout Southern California.
- Utilized Adobe Audition, FL Studio and Audacity to clean up recordings and make advertisements supporting the station.

GeneDrop Inc., Biotechnology *August 2019 - October 2019*

Bioinformatics/Data Science Intern *San Francisco, CA*

- Worked on Magnolia - a trainable variant caller that converts sequence alignment data into images, feeding the images into DCNNs for identifying genetic mutations using object detection in C++ deep learning framework, Caffe.
- Conducted comparative analysis between variant call format files generated in-house and the MIT Broad Institute.
- Developed and deployed machine learning models on AWS, using the Ensembl and UC Santa Cruz genome browsers for sourcing reference genomes, and the human SNP and INDEL models for discerning genomic variation.

Northern Trust Corporation, Financial Services *June 2019 – August 2019*

Software Engineering Intern *Chicago, IL*

- Developed an over-the-counter derivatives trade processing application backed by machine learning, reducing human analysis using Java, Python and SQL as a proof-of-concept project running on OutSystems, a low-code platform.
- Assisted in server migration; conducted QA testing against DEV, SYS, UAT A/B, and PROD environments, and changed references on Northern Trust's unified derivative trading platform to point to new server as part of recovery from crash.
- Created a DevOps dashboard utilizing Java, Python and Hygieia for monitoring Jira, Jenkins, and Bamboo CI/CD pipeline.

Modishstore, LLC *June 2018 - September 2018*

Software Engineering Intern *Palo Alto, CA*

- Modified product data to the correct format before uploading to retail database using Python and SQL.
- Instrumented site with Google Analytics and implemented design changes in JavaScript, increasing website engagement.

PROJECTS

Real-Time Image Classifier

- Designed real-time system that seamlessly identifies common objects from laptop's webcam feed and plays audio descriptions using Python machine learning library TensorFlow and Google's Inception v3 CNN classifier.

Simul-OS

- Created a concurrent operating system that allows users to save and print files by reading/writing from disk. Exploited parallelism wherever possible, such that all devices are used concurrently, completed in Java.

Statify

- Built a mobile music engine in Python that displays a Spotify user's top artists, albums, and songs over various time periods, with an optional feature to generate and save a playlist containing tracks similar to the user's music tastes.