

Rahul Kumar

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EDUCATION

University of California, Berkeley

Berkeley, CA

B.A in Computer Science, B.A in Economics (GPA: 3.75)

Expected Graduation: 2024

Certificate in Entrepreneurship & Technology

Sutardja Center for Entrepreneurship and Technology

WORK AND EXTRACURRICULAR EXPERIENCE

Academic Development Committee Member

Jan. 2022 – Present

Data Science Society at Berkeley

Berkeley, CA

- Taught Intro. to Real World Data Science (CS198) and mentored 10+ students' deep learning research projects

Academic Intern

Jan. 2022 – Present

UC Berkeley Division of Data Science

Berkeley, CA

- Selected to provide academic and lab assistance to 20+ students Foundations of Data Science (DATA8)

Software Engineering and Product Development Intern

May 2021 – Jan. 2022

AskWhai Inc.

Mountain View, CA

- Used convolutional neural network models to implement smarter recommendation system and image-to-text machine learning models which directly increased user engagement by 15%

Team Captain and Lead Programmer

Sep. 2017– May 2021

REVERB Robotics

Ashburn, VA

- Elected as team captain for 4 years, developed sensor-integrated algorithms for autonomous programming and motion tracking systems using C++, led team to winning Virginia State Championship

RESEARCH EXPERIENCE

Deep Learning Group Mentor

Jan. 2022 – Present

Data Science Undergraduate Lab @ Berkeley

Berkeley, CA

- Mentoring a team of undergraduate students in a deep learning project to be presented in May 2022

Deep Learning Researcher

Aug. 2019 – Jun. 2021

Loudoun Academy of Science

Leesburg, VA

- Took online courses on ML/DL fundamentals, presented at weekly lab meetings, qualified for state science fair to present research regarding COVID-19 detection from CT scans using deep learning

Deep Learning Research Assistant

Aug. 2020 – May 2021

UPenn Perelman School of Medicine - Center for Biomedical Image Computing and Analytics

Remote

- Developed PyTorch implementations of convolutional neural network models (VGG16, DenseNet121, ResNet50) for the analysis of 20,000+ MRI scans to accurately predict tumor prognosis
- Proposed novel data augmentation methodologies which led to reduced error metrics in cross-validation

Co-Founder and Research Director

Jun. 2020 – May 2021

Aluna Research Group

Ashburn, VA

- Founded an organization to allow students to engage in machine learning research, gained over 100 research fellows globally and mentored 12 research teams through ideation, experimentation, and publication; was featured in local news outlets for developing an educational data science curriculum

PUBLICATIONS

CoronaNet

Jun. 2020 – Sep. 2020

- Co-first author on [published deep learning paper](#) used custom deep learning architectures in Python for the analysis of CT scans for the detection of COVID-19; achieved state-of-the-art results on a 1000 image dataset, used novel preprocessing and data augmentation techniques to optimize model performance

Applying Deep Learning to Detect Knee Abnormalities from MRIs

Jan. 2021 – Feb. 2021

- Utilized [deep learning and Laplacian filtering](#) to detect knee damage from MRIs, achieved state-of-the-art metrics

TECHNICAL SKILLS

Relevant Courses: Foundations of Data Science, Principles of Data Science, Structure of Computer Programs, Data Structures, Designing Information Devices,

Languages/Frameworks: Python, SQL, git, pandas, NumPy, Matplotlib, Keras, PyTorch, seaborn, Jupyter, L^AT_EX