RAHUL SHARMA

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EDUCATION

University of California, Berkeley Expected Grad: 05/2025

B.A. Computer Science, Minor in Data Science | GPA: 4.0/4.0

- **Relevant Coursework**: Efficient Algorithms, Data Structures, Computer Architecture, Techniques of Data Science, Discrete Mathematics and Probability, Artificial Intelligence, Optimization Models, Economic Modeling

PROFESSIONAL EXPERIENCE

Amazon, *Lab126 Alexa Computing Team: Engineering Intern* 05/2023 - 08/2023

- Designed an end-to-end software based (Python) automation framework to validate computational image capturing functionality over long durations (>12 hours) on Echo devices
- Developed a utility tool within the Echo software camera stack to facilitate the parsing of client API calls, empowering effective analysis and improvement of camera services
- Created a UI platform (synchronized with an error database) for the utility tool, enabling the validation of camera API activity and automated error logging

Merck, *Data Research Intern (via UC Berkeley)* 01/2023 - 05/2023

- Developed an image registration pipeline using ANTsPy to detect abnormalities in patients' lung CT scans -- trained the model with over 100 patients
- Wrote Python scripts to convert 2D DICOM files into 3D NIFTI volumes and conduct pairwise registration of the test set with the optimized hyperparameters
- Created a robust quality check using OpenCV to assess the quality of registered images

NWF Strategies, *Software Engineering Intern* 09/2022 - 01/2023

- Built a partisan classifier utilizing voting and demographic data from ~10,000 California precincts to accurately assign partisanship to geographic regions using Pandas and Scikit
- Refined a social media sentiment analysis tool to collect/analyze political views via Twitter
- Used Folium and JS to construct an interactive map of voting tendencies across precincts

GreenOps, *Software Engineering Intern* 05/2022 - 08/2022

- Constructed a Kubernetes deployment infrastructure using Python in order to sync ArgoCD applications and deploy CI/CD pipelines within the GreenOps environment
- Set up metrics endpoints/visualizations with Prometheus/Grafana and scraped CPU/memory usage logs for service pods
- Tested the performance of Redis persistence (RDB vs. AOF) as a caching tool

PROJECTS AND RESEARCH

Berkeley Artificial Intelligence Research (BAIR), *Researcher* 08/2023 - Present

- Conducting artificial intelligence research in the Computational Imaging Lab
- Applying deep learning techniques with PyTorch to enhance digital imaging systems and elevate image capturing capabilities

Sports Analytics Group @ Berkeley, *Project Manager* 01/2022 - Present

- Lead data analysis consulting projects for professional sports teams
- Developed a model to assess ratings of any 5 man lineup combinations for NBA team (Scikit)
- Built a Flask app for streamlined sports visualizations using data pulled from a custom web scraper

SKILLS

Programming Languages: Python, Java, C, C++, HTML/CSS, Javascript, Scheme
Data Analysis/Machine Learning: SQL, R, Pandas, Numpy, Scikit-Learn, OpenCV, Pytorch
Cloud: AWS, Docker, Kubernetes, ArgoCD
Miscellaneous: Flask, React, Redis, Prometheus/Grafana, Git, Linux, JSON, Image Processing