Divit Rawal

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EDUCATION

University of California, Berkeley   Aug. 2023 – Present
Physics, Intended Computer Science   *Berkeley, CA*
- Relevant Coursework: Data Structures, Computer Networks, Deep Learning for Visual Data, Advanced Programming in R
- Launchpad AI/ML, Hands-On PCB Engineering Course Staff

EXPERIENCE

ExperienceFlow AI   May 2024 – Present
Machine Learning Intern   *Remote*
- Developing finite state machines and graph neural networks for enterprise applications
- Simulating, analyzing, and optimizing business operations using machine learning techniques

Amazon   Aug. 2023 – Dec. 2023
OpenSearch Contributor   *Remote*
- Selected as member of 2023 OpenSearch Contributor Initiative
- Contributed to the ml-commons repository by developing machine learning algorithms, unit tests, and plugins
- Collaborated with students, industry professionals, and Amazon Machine Learning Engineers worldwide

UC Irvine, Department of Physics & Astronomy   Feb. 2022 – Jul. 2023
Researcher   *Irvine, CA*
- Developed, trained, and tested TensorFlow/Keras deep learning models to address data scarcity issues in high momentum collision analysis with >90% accuracy
- Simulated particle collisions using MadGraph, Pythia8, Delphes, and ROOT and designed/implemented reconstruction algorithms in C++ and Python to predict particle mass with <2% error

PROJECTS

Neural Navigator | *Graph Neural Networks, LightGCN*
- Developed deep-learning based recommender systems to recommend users activities and events in the Bay Area
- Implemented collaborative filtering using LightGCN and matrix factorization methods
- Built web application for user interaction using the React JS and Django frameworks

Research-Engine | *Python, Flask, Svelte, Web Scraping, Natural Language Processing*
- Led team of 3 to develop Research-Engine, helping users efficiently find and summarize information about a topic
- Developed a full-stack web application hosted on an AWS EC2 instance using Flask and Svelte
- Implemented web scraping and natural language processing to obtain and summarize information from Google

Watersort Solver | *Flutter SDK, Dart, Java*
- Designed and developed Watersort Solver in Java and Flutter to quickly solve any watersort brainteaser
- Published to Google Play Store with 4.5 star rating and >160 downloads

CERTIFICATIONS

Decision Making and Reinforcement Learning   *Columbia University*
- Studied theoretical and mathematical foundations of reinforcement learning strategies for dynamic environments
- Implemented algorithms such as Q-learning and SARSA in Python

Machine Learning   *IBM*
- Studied data analysis, supervised, unsupervised, and semi-supervised learning with a focus on deep learning
- Completed capstone project using machine learning to build recommender systems

SKILLS

Languages: HTML/CSS, JavaScript, Python, R, SQL, C, C++, Java,
Frameworks: ReactJS, NodeJS, React Native, Flutter, Flask, Mockito, ROOT
Libraries: PyTorch, TensorFlow Keras, Pandas, NumPy, Matplotlib, SciKit-Learn, BeautifulSoup