

# Divit Rawal

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## EDUCATION

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### University of California, Berkeley

Berkeley, CA

*Intended B.A. Physics, Mathematics, Minor in Electrical Engineering & Computer Science*

*Aug. 2023 – Present*

- National Merit Scholarship Finalist 2023 (awarded to <1% of students)

### IBM Professional Certification in Machine Learning

Coursera

*Coursera Certified Completion*

*Jun. 2023*

- Studied the fundamentals of machine learning including regression, clustering, classification, deep learning, and reinforcement learning
- Completed capstone project using machine learning to build recommender systems

## EXPERIENCE

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### Tutor

Jun. 2023 – Present

*Kairos Academics*

*Irvine, CA*

- Provide one-on-one tutoring to high school students in math and science
- Develop personalized lesson plans and study strategies to address individual student needs and learning styles
- Track student progress and adapt teaching methods to ensure comprehension and academic growth

### Research Intern

Feb. 2022 – July 2023

*Department of Physics & Astronomy, University of California, Irvine*

*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 wrote reconstruction algorithms in C++ and Python to predict particle mass to within <2% error

### Head of Tutoring

Aug. 2021 – Jun. 2023

*SimpleMath Foundation*

*Irvine, CA*

- Led a team of 11 tutors to provide academic support to children from underserved communities, helping improve their understanding and confidence in math
- Personally tutored 2 students each week, tailoring instruction to meet individual needs and learning styles
- Created and published a series of engaging and informative YouTube videos on key math concepts

## PROJECTS

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### Research-Engine | Python, Flask, Svelte, Web Scraping, Natural Language Processing

Nov. 2022 – Apr. 2023

- Led a team of 3 to develop Research-Engine, a tool to help users efficiently find and access relevant information and research about a topic
- Developed a full-stack web application hosted on an AWS EC2 instance using with Flask with Svelte as the frontend
- Implemented web scraping and natural language processing to obtain and summarize information from Google

### Watersort Solver | Flutter SDK, Dart, Java

Jul. 2022 – Nov. 2022

- Designed and developed Watersort Solver in Java and Flutter to quickly and accurately solve any watersort brainteaser
- Published to Google Play Store

## TECHNICAL SKILLS

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**Languages:** Python, C++, Java, HTML/CSS, JavaScript

**Frameworks:** ROOT, Flutter, Flask, Tensorflow/Keras

**Libraries:** Pandas, NumPy, Matplotlib, SciKit-Learn