**Divit Rawal**

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***SUMMARY***

**EDUCATION**

**UNIVERSITY OF CALIFORNIA, BERKELEY** *Class of 2027*

Intended Major: Physics

**NORTHWOOD HIGH SCHOOL** *Class of 2023*

* National Merit Scholarship Finalist 2023 (awarded to < 1% of students)
* 2nd place Jack Howe Memorial Tournament (2019), Orange County Speech League (2019)
* Organized multiple speaker events and activities as events coordinator for Astronomy Club
* College Coursework
  + Single-Variable Calculus I & II (Chapman University)
  + Intro to Computer Systems, Intro to Business, Intro to Life Sciences, Spanish II (Irvine Valley College)

**MACHINE LEARNING PROFESSIONAL CERTIFICATION, COURSERA (IBM)** *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
* **Skills**: data pre-processing and cleaning, feature selection, statistical analysis, data visualization

**PARTICLE PHYSICS, COURSERA (UNIVERSITY OF GENEVA)** *Jul 2022*

* Explored the principles and concepts of particle physics, including the Standard Model and particle interactions
* Studied experimental techniques used in particle physics research, such as collider experiments and particle detectors
* **Skills**: mathematical techniques, data analysis

**GAME THEORY, COURSERA (STANFORD, UNIVERSITY OF BRITISH COLUMBIA)** *Jun 2021*

* Gained a comprehensive understanding of game theory principles and applications in various fields, including economics, political science, and computer science
* Analysed and solved game theory problems using mathematical models and strategic thinking
* **Skills**: strategic thinking, mathematical modelling

**WORK EXPERIENCE**

**TUTOR, KAIROS ACADEMICS** *May 2023 - Present*

* 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
* **Skills**: adaptability, communication, problem-solving

**RESEARCH INTERN, UCI - DEPARTMENT OF PHYSICS & ASTRONOMY** *Feb 2022 – July 2023*

* In the lab of Dr. Daniel Whiteson, investigate the use of computational methods in high-energy physics
* Trained and tested neural networks for signal-background classification in high-momentum collisions
* Developing algorithms to investigate simulated decays of heavy particles and their properties, including theorized particles
* **Skills**: Python, TensorFlow, C++, ROOT

**HEAD OF TUTORING, SIMPLEMATH FOUNDATION** *Aug 2021 - Present*

* 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
* **Skills**: leadership, management, tutoring and instruction techniques

**LIFEGUARD, CITY OF IRVINE** *Apr 2022 – Sep 2022*

* Ensured the safety of patrons by actively monitoring pool area and responding to hazards
* Performed water rescues and administered first aid/CPR when necessary, effectively managing critical situations with calmness and confidence
* Provided excellent customer service by addressing inquiries and assisting with registrations
* **Skills**: emergency response, first aid/CPR, teamwork

**VOLUNTEER TUTOR, HERITAGE PARK LIBARY** *Apr 2019 – Nov 2022*

* Provided academic support and guidance to students of various grade levels, assisting them with homework assignments, projects, and test preparation
* Developed strong interpersonal skills, building rapport with students and establishing a trusting relationship to enhance learning outcomes
* Worked collaboratively with other tutors and library staff to coordinate schedules, share resources, and optimize tutoring services
* **Skills**: communication, organization, teamwork

**PROJECTS**

**WATERSORT SOLVER APP**

* Designed and developed the “Watersort Solver” app using Java and Flutter, which quickly and accurately solves challenging watersort brainteasers
* Code available on GitHub: @divitr/watersort\_solver\_app
* **Skills**: Java, Flutter, Dart, Android Development

**RESEARCH ENGINE WEBSITE**

* Led a team of 3 to develop research-engine.net (using Python and Svelte) to help users efficiently find and access relevant information and research about a topic
* Code available on GitHub: @divitr/research-engine
* **Skills**: Python, Natural Language Processing, web scraping, Amazon Web Services

**LUNCH LINE PRE-ORDER SYSTEM**

* Working closely with Northwood High School administration, conceptualized and proposed a pre-order system for lunch to alleviate crowding in the lunch line – 82% student body approval
* Wrote backend and initial UI for app, focusing on efficient functionality
* **Skills**: Java, Flutter/Dart