Kunal Agarwal

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EDUCATION

UNIVERSITY OF CALIFORNIA, BERKELEY

BA in Computer Science
BA in Applied Mathematics
(Emphasis: Data Science)
May 2021 | Berkeley, CA
Honors to Date
Cum. GPA: 3.91/4
Major GPA: 3.92/4

MISSION SAN JOSE HIGH SCHOOL

High School Diploma
June 2017 | Fremont, CA
Student Groups:
Wind Ensemble & Marching Band (Trumpet), Debate,
Model United Nations

SKILLS

PROGRAMMING

Proficient:
Python • Java • C • Scheme
Pandas • MySQL • RISC-V
Git • gdb • Valgrind
Familiar:
GoLang • C++ • HTML/CSS
Javascript • Django

COURSEWORK

COMPUTER SCIENCE

Program Structures & Interpretations
Data Structures
Computer Architecture
Principles/Techniques of Data Science
Algorithms/Intractable Problems ***(enrolled)***
Artificial Intelligence ***(enrolled)***

MATHEMATICS

Linear Algebra
Multi-variable Calculus
Discrete Math & Probability Theory
Upper Division Linear Algebra ***(enrolled)***

LINKS

LinkedIn:// kagarwal2
Github:// westernguy2

REFERENCES

Alex Sim: asim@lbl.gov

EXPERIENCE

LAWRENCE BERKELEY NATIONAL LAB

Computer Science Research Intern
June 2019 - Present | Berkeley, CA

- Working in the Scientific Data Management Research Group.
- Designing a framework in C to package and release the IDEALEM data compression software using debugging software such as Valgrind and gdb.
- Testing the software using Pandas and NumPy in a Jupyter Notebook on the NERSC Cori supercomputer.
- Writing a research paper and delivering a research poster.
- Presenting my progress every other week to the research group.

CS 61A: STRUCTURES AND INTERPRETATIONS OF COMPUTER PROGRAMS

Course Staff: Tutor
June 2019 – Present | Berkeley, CA

- Teaching three sections of 5-6 students bi-weekly on fundamental computer science topics.
- Develop and design a worksheet for a two-hour guerilla section.

PIONEERS IN ENGINEERING

Web Developer
Aug 2017 – May 2018 | Berkeley, CA

- Maintained website [pioneers.berkeley.edu] using HTML/CSS.
- Repaired and improved parts of the website by debugging margin issues, photo quality, and CSS stylesheet issues and adding features required by the team.
- Redesigned the website to make it user-friendly by changing the organization of information, replacing the layout of the front page, and reformatting the way in which the website looped through XML files.

PROJECTS

GRAPH API, MAKE, AND TRIP FINDER

Dec 2018

- Created a graph package using Java that allowed users to create a graph data structure for their own use.
- Included was a general traversal algorithm as well as breadth-first & depth-first traversal algorithms as well as A* and Dijkstra's.
- I built a trip finder and a basic *make* tool using the API.

AMAZONS: COMPUTER GAME

Nov 2018

- Developed an AI using a minimax algorithm utilizing alpha-beta pruning and iterative deepening.
- AI was ranked in the top five of a class of almost a thousand students.
- Implemented in Java using an extensive knowledge of object oriented programming.

CS 61A: TEACHING MATERIALS: WEB APPLICATION USING DJANGO

Aug 2018

- Utilized Django framework to allow users to view worksheets and their corresponding solutions that are specific to their topic(s) of preference.
- Implemented on personal website [kunal-agarwal.com] using HTML and CSS.