Ahmed Baqai

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Education

University of California, Berkeley
Expected Graduation: 2022, College of Letters and Science, CS
Courses: Structure and Interpretation of Computer Programs, Data Structures, Discrete Mathematics and Probability Theory, Designing Information Devices and Systems, Great Ideas in Computer Architecture, Efficient Algorithms and Intractable Problems

West Valley College (Concurrent Enrollment | HighSchool) (2018-2019)
Multivariable Calculus
Discrete Mathematics

Skills: Java, Python, C, EDA, HTML, JS, TS, React-Redux, SQL, Git, Scheme, RISC-V, CAD, Product Design
Tools: Firebase, Docker, Pandas, Jupyter Notebook, npm, PostgreSQL, GitHub, SolidWorks, Figma

Technical Experience

SWE, Conversion Rate Optimization Intern | HelloFresh (US) | *June 2020 - August 2020*
• Enhanced Frontend Infrastructure to improve HelloFresh conversion experience for US-based customers through A/B testing. My work increased customer checkouts per visit by a net total of 2%.
• Orchestrated and Developed Phase 1 of the Community Discount Microservice aimed to provide frontline workers lower subscription rates. My database structure achieves quick email validation and reduces fraud risks.

Software Developer & Product Designer | Berkeley Codeology | *September 2019 - Current*
• Employed HTML and Flask to formulate "Whatcha Wanna Do", a user-friendly website that searches through Eventbrite's database to create an action-packed and exciting schedule for the user.
• Deployed matching algorithm, allowing *The Music Connection* (Organization) to readily match students and tutors. Automatic accounting for variables like timing, instrument, level, etc. ultimately saved 4 hours/weak.
• Built website through React, Redux, AdobeXD, and Git for consistent rendering, and user-friendly flow.

Electronic Stability and Criteria Intern | Altia Systems (PanaCast) | *July 2017 - August 2017*
• Tested the electronic stability of the Canyon camera by establishing a good correlation between the gain and phase margins. Used this information to create energy-saving feedback loops.
• My testing increased Canyon's electrical efficiency by 20% ultimately leading to an early release of the product.

Video Analysis and Product Automation Intern | Altia Systems (PanaCast) | *July 2016 - August 2016*
• Spearheaded through the Engineering Design Process to map and CAD (SolidWorks) an automated machine to test the configuration of several P2S camera lenses, Altia's main product.
• My designs expedited the manufacturing process for the automation machine, ultimately increasing production time by 40% and reducing production costs by 2.5%. Conducted multiple tests with facial recognition software (Python) to analyze the effects of inhibiting variables such as facial coverage, distance, and lighting.
• Assembled feedback report which drastically improved Altia's current facial recognition capabilities by 6%.

Projects and Leading Roles

EECS Academic Intern | Data Structures • Interpretation of Computer Programs | *2020-Current*
• Assist new CS majors in areas of Object-Oriented Programming, Tail Recursion, Data Structures (Arrays, Trees, Linked-Lists, Dictionaries). Collaborate with head TA's to establish productive labs and discussions.

Berkeley Computer Science Mentor | Structure & Interpretation of Computer Programs | *2020-Current*
• Instruct a CS review section for students at UC Berkeley. Ensure students create new knowledge from old concepts through critical thinking and challenging problems, ultimately creating an atmosphere of collaboration.

Front-end Developer and ML Trainee | Crowd Insights | *2019-2020*
• Incorporated YOLO's head detection and person detection models with graph theory algorithms, linear regression, and automatic k-means clustering to determine lines and clusters of people in a video. Published data on a website built through ReactJS.

Robot Director and Technical Lead | The Tech Museum | *2015-2018*
• Operated and revamped Buster(robot) by improving its battery life, dynamics, and network connectivity which maximized museum attendance and influenced children to follow the STEM pathway.
• Engaged teenagers in STEM through concepts of Artificial Intelligence and Autonomous Robotics.

Awards
• Statistics Department Honorary Award
• French Department Honorary Award
• First Tech Challenge Control Award
• First Robotics Challenge Spirit Award
• AP Scholar with Distinction
• DELF A1 and A2 (French Diploma)

Organizations and Activities
• Big Data @ Berkeley
• Computer Science Mentors @ Berkeley
• Cal Pakistani Student Association
• Cal Muslim Student Association
• UC Berkeley Azaad (Bollywood Fusion Dance

Languages: English, Urdu, Hindi, French, Punjabi