JOHNSON NGUYEN

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EDUCATION

University of California, Berkeley **Expected: May 2023**
Bachelor of Arts in Data Science (Domain Emphasis in Economics), Minor in Computer Science

- **Relevant Coursework:** Algorithms, Structure and Interpretation of Computer Programs, Information Devices and Systems I & II, Data Structures, Data Science Foundations, Machine Structures, Calculus I & II, Multivariable Calculus, Discrete Mathematics & Probability Theory, Elementary Statistics, Macroeconomic Principles, Microeconomic Theory

WORK EXPERIENCE

UC Berkeley EECS Department August 2021 - Present
CS61A (Computer Programs) Academic Intern *Berkeley, CA*

- Assist 30+ students in labs with debugging and reinforcing programming concepts
- Give guidance to students on assignments, projects, and course material
- Designed short lectures alongside other course staff to lead course projects and labs
- Teaching topics include Python object-oriented programming, trees, Scheme, and SQL

Hillview Branch Library May 2018 - August 2018
Tutor *San Jose, CA*

- Daily tutoring sessions with around 10 to 15 K-12 students as preparation for higher level math and writing courses
- Direct weekly tutoring sessions with 3-5 students to reinforce statistics topics
- Followed provided coursework alongside created problems for advanced math courses
- Served as examiner for all 120 students for calculus and statistics

PROJECTS

Discord Bot — Python **Github: git.io/JPt7M**

- Developed a bot in a small team in a 3-day hackathon using Python object-oriented programming
- Worked in conjunction with Discord's Python API to enable public user interactions with async and await information collection, storing/look-ups for Discord user statistics in linear time, and active message scanning for relevant calculations
- Parsed Discord user metadata for ease of manual modifications of user statistics, which includes user ID, timestamps upon joining, server ID, channel ID, and the user's progress in games

Gitlet — Java **Github: Private Repo**

- Developed a simple version control system based on Git from scratch
- Designed internal file structures with a SHA-1 hashing storage system to prevent collisions with various basic features for modifications
- Implemented a constant time lookup storage system for commits across multiple branches using trees
- Features include file tracking, branching, backup commits, merging, and remote usage

Jumping Cubes — Java **Github: Private Repo**

- Created a two player turn-based game where each player's goal was to fill the board with their corresponding color
- Features include AI opponents using game tree depth traversals through alpha-beta pruning, neighbor color and count checking for appropriate calculations, reverts to previous game states from stored boards, and a basic GUI

Scheme Framework — Python, Scheme **Github: Private Repo**

- Developed an simple interpreter for a subset of the Scheme language, using lexical and syntactical analysis alongside input parsing
- Created function sets in Scheme that performed list combinations, enumerations, and mutations for Python

TECHNICAL SKILLS

Languages Java, Python, JavaScript, CSS/HTML, C, SQL, RISC-V Assembly, Scheme
Tools Git, LaTeX, NumPy, RegEx Parsing