

BRIGHAM ALDRICH

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EDUCATION

UC Berkeley | *B.A. in Applied Math with Computer Science Focus* **Aug 2021 - May 2025**

Math Combinatorics, Numerical Analysis, Algebraic Geometry, Econometrics, Complex Analysis, Real Analysis, Abstract Linear Algebra, Abstract Algebra

CS Cryptography, Python: Structure and Interpretation, Data Structures and Algorithms in Java, Designing Information Devices and Systems, Discrete Math for Computer Science

EXPERIENCE

Code Coach | *The Coder School Berkeley* **Jan 2024 - Present**

- Coach for elementary, middle, and high school students in a variety of softwares
- Python, PyGame, C#, Unity, JavaScript, Web Development, Java, Scratch, etc.

Freelance Photographer | *Brigham Aldrich Photography* **Jan 2020 - Present**

- Graduation portrait photographer for university students in the Bay Area and beyond
- Headshot photographer for actors, graduate students, and industry professionals

Video Technology Manager | *The Daily Californian* **Feb 2022 - May 2023**

- Video producer, cinematographer, and video editor at The Daily Californian.
- Organized the technological needs of the multimedia department including camera gear, insurance, and software workflow.

Sales Associate | *Santa Cruz Ace Hardware* **Jun 2019 - Aug 2021**

- Maintained the digital inventory system and designed purchase orders to maintain stock.
- Conducted general training and software specific training for roughly 5 new employees per month.

PROJECTS

Chess Opening Tree Analyzer | *ReactJS, Python, Pandas, XGBoost, Scikit-learn, OAuth2/API*

Trained an XGBoost model on 100,000 data points using scikit learn to predict win/draw/loss rates in a given chess position. Engineered features such as engine evaluation, volatility, king safety, pawn structures, mobility, etc. The model uses info about the board state, player ratings, and clock values to make accurate predictions (log loss 0.85). Built a React front end to pull player games from online chess platforms and generate a move tree which is automatically analyzed to find positions of under or over performance (prediction differs from actual win rates).

Mystery Spot Reservation Service | *Google Apps Scripts, JavaScript, JSON, Backend*

Developed a script for the Mystery Spot in Santa Cruz, CA which automates the online reservation service using intelligent data analysis. Successfully processes over 100,000 bookings each year.

Chess Beads | *ReactJS, JavaScript, HTML, CSS, Node.js, WASM, Web Sockets, Bluetooth*

Built a web app that is a chess analysis interface with integrated chess engine support as well as bluetooth hardware connection to send moves to vibrating devices in binary. Made to demonstrate the danger and ease of cheating in over the board chess. Find it at brighamaldrich.com/chess-beads.

SandboxAR | *Linux, Hardware Engineering, 3D Imaging, Navier Stokes, Gradient Descent*

Built an augmented reality sandbox for the USGS. The sandbox projects a colored contour map with fluid simulations using real time depth data from the sand surface and the Navier Stokes equations.

SKILLS & INTERESTS

Software Python, Pandas, SQL, R, Tableau, Looker Studio, Java, HTML, CSS, JavaScript, Flask, Django, C, C++, C#, ReactJS, Node.js, Google Apps Scripts, Unity, Matlab, Git
Adobe Photoshop, Adobe Lightroom, Adobe Premiere Pro, Adobe Illustrator, Adobe XD, Adobe InDesign, Final Cut Pro X, DaVinci Resolve, Microsoft Excel

Languages English: Native | Spanish: Proficient | Italian: Beginner

Hobbies Chess, Rock Climbing, Guitar, Web Development, Travel Photography

AWARDS AND HONORS

Las Vegas International Chess Festival Section Winner **June 2021**

PCS High School Math Award **May 2021**

1st Place Men's U/18 at Mountains2Beach Marathon **May 2019**

National Merit Commended Scholar **May 2019**