

# MAX VINK

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## EDUCATION

### University of California, Berkeley

B.S. Computer Science and B.A. Political Science | GPA 3.712/4

## EXPERIENCE

### Independent Contracting

San Francisco, CA

Web Developer

January 2025 – Current

- Developed custom browser-based tools & websites in React, focusing on performance optimization & user experience

### UC Berkeley Embodied Dexterity Laboratory

Berkeley, CA

Lab Intern

November 2024 – December 2024

- Implemented circuitry for solenoid actuation to control positive pressure in robotic suction cup end-effectors
- Reduced haptic feedback search runtime by 25% through optimized pressure regulation during surface contact

### Southern California Edison

Pomona, CA

Machine Learning Intern

May 2023 – August 2023

- Modeled heatwave overload on distribution transformers for Southern California with 85% accuracy
- Deployed production-ready model for risk analysis and outage forecasting to enhance wildfire prevention
- Created novel methodology for weather normalization that could be adopted for company-wide goal-setting initiatives

### UC Berkeley Engineering Department

Berkeley, CA

CS61A, CS61B, CS61C CS70, Math1A, Math54, CS161

January 2023 – January 2025

- Staffed biweekly tutoring sessions to help 30+ students learn computer science languages and fundamentals
- Facilitated weekly review sessions focusing on data structures and object-oriented programming principles

### Political Computer Science @ Berkeley

Berkeley, CA

Parolee Recidivism - Data Scientist and Researcher

August 2022 – December 2022

- Developed race-neutral recidivism prediction models achieving 75% accuracy with balanced confusion matrices
- Outperformed existing judicial system models while maintaining fairness across demographic groups

FoodWatch - Machine Learning Design Team Lead

January 2024 – May 2024

- Architected geospatial models to identify food scarcity using satellite imagery, OpenStreetMap, and economic data
- Achieved 72% prediction accuracy, creating tools to help developing regions identify supply chain vulnerabilities

### UC Berkeley EECS Department

Berkeley, CA

Course Staff – CS61A: Introduction to Computer Programs

January 2023 – May 2023

- Guided 30+ students through weekly labs on object-oriented Python, Scheme, and SQL fundamentals
- Created course content, presented weekly material recaps, and debugged projects in a team with 10 other TAs

### Mike's Bikes Development Cycling Team

San Jose, CA

Racer - Category 2

January 2024 – Current

- Competed with elite 8-member cycling squad in California and national racing circuits

## PROJECTS

### Portfolio Site ([link: mjb11.github.io](https://mjb11.github.io))

December 2022 – Current

- Constructed WebGL animations by transforming voxels between 10 3D geometric animation patterns in Three.js & Tween.js
- Developed custom GLSL vertex shaders for efficient vector manipulation of 10k+ polygons

### Pedals and Pixels

April 2025

- Developed an 3D photo renderer that transforms images into dynamic particle systems with raycasting-based touch interactions
- Integrated Strava RESTful API to fetch and visualize athlete power curve metrics & overlaid dynamic data visualization

### Zephyr

March 2025

- Engineered a MonkeyC application for Garmin Edge cycling computers providing GPS-based real-time weather forecasting
- Implemented efficient data handling for low-power devices while maintaining a responsive user interface

### Robots Steal NBA Jobs

November 2024

- Programmed a robotic arm to color-threshold basketball hoops, calculate trajectories, & shoot with 100% eFG accuracy
- Worked with a 5-person team to implement instantaneous delivery of positive pressure, guaranteeing release timing

### Secure Storage

March 2024

- Architected a Go-based secure relational database supporting user authentication and encrypted file management
- Implemented comprehensive threat modeling and fuzz testing to ensure data confidentiality and integrity

## SKILLS

Python, Java, Go, C, RISC-V, SQL, HTML, CSS, JavaScript, Markdown, Git, React, Three.js, WebGL, Pandas, NumPy, Hadoop, Assembly, PyTorch, ROS, Postgres, Scheme, cybersecurity, machine learning, network protocols, data structures, algorithms, etc.