

Mathew Kramsch

UCSB COMPUTER SCIENCE STUDENT • FULL-STACK SOFTWARE DEVELOPER

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Education

University of California, Santa Barbara

Expecteded Graduation: Jun. 2022

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

Sep. 2017 - Jun. 2022

- **Relevant Courses:** Data Structures and Algorithms I,II • Object Oriented Design and Implementation
Advanced Applications Programming • Team-based Web-App Development Project • Computational Science • Computer Architecture
Computer Organization and Logic Design • Database Systems • Computer Communication Networking • Operating Systems
- **GPA:** 3.54

Work Experience

Front-End Web Developer

Santa Barbara, CA

TUFFHOUSE INC.

Dec. 2021 - Current

Worked as sole front-end developer for start-up company based in Santa Barbara to design and implement a scalable online store website.

- Used React.js and SASS to build a fully responsive front-end from scratch, including a dynamic online store with a persistent shopping cart and a dynamic blog, connected to a Django and Python back-end using the Axios API and hosted on AWS
- Used Figma to design and prototype responsive wireframes for site pages and to build a clean and intuitive user interface

Projects

KOS Operating System

Santa Barbara, CA

UC SANTA BARBARA

Sep. 2021 - Dec. 2021

Designed and implemented a functional light-weight operating system kernel for a simulated DEC MIPS R3000 machine from scratch in C.

- Implemented the baseline Linux system call interface necessary to run a fully-capable command line shell and to implement pipes
- Developed simple time-shared multi-programming, task switching, interrupt and exception handling, and time-slicing
- Exercised test-driven development practices, writing tests in C cross-compiled for the MIPS R3000 to extensively test the OS against Linux
- Demonstrated advanced knowledge of memory management, asynchronous systems development, multi-threading, and kernel programming
- Programmed completely in C using a non-preemptive threads library, semaphores, and GDB for debugging

Isla Vista Housing Search

Isla Vista, CA

UC SANTA BARBARA

Mar. 2020 - Jun. 2020

Created production-ready web application to facilitate the housing search process, allowing users to post and browse housing listings.

- Wrote organized, thoroughly documented, and scalable code using React, Next.js, JavaScript, HTML/CSS, and Node.js
- Used the Heroku cloud platform to host production and quality assurance deployments of application
- Maintained a MongoDB NoSQL database to manage and dynamically store housing and user data
- Integrated application with Mapbox API for visually comparing housing listings on a map of Isla Vista
- Integrated with Auth0 API with Google Sign-In for secure user authentication to allow logged-in users to post and edit housing data
- Implemented responsive and cross-browser capable website with a cohesive visual design, and reusable user interface components
- Employed Agile and SCRUM methodologies, continuous integration principles, and comprehensive Cypress and Jest testing
- Developed in a team of five, utilizing GitHub for collaborative programming and Git version control branching

Front-End Web Development Online Courses

Santa Barbara, CA

THE ODIN PROJECT, FREECODECAMP

Aug. 2020 - Sep. 2020

Took two intensive extracurricular online courses in front-end web development, JavaScript, HTML, and CSS.

- Covered in-depth JavaScript, HTML, and CSS, website deployment, search engine optimization, and HTML5 accessibility practices
- Attained proficiency in front-end web development, JavaScript, HTML, CSS, and user interface/experience design
- Honed advanced visual design skills with CSS, CSS animation and graphic creation
- Gained experience in creating responsive and complex web-page layouts using CSS Grid and CSS Flexbox
- Created web development projects including mock landing pages, browser-based games, and various in-browser JavaScript utility applications

Skills

Programming Languages, etc: C • C++ • Java • Python • JavaScript • OCaml • λ^+ • HTML/CSS • LaTeX • SQLite • Datalog

Tools & Technologies: React • Next.js • SASS • Node.js • MongoDB • Figma • Git • Heroku • Vercel • Eigen3 • OpenCV
Jupyter Notebook • numpy • pytorch • GDB • valgrind • Bash

Industry Skills: Object-Oriented Programming • Agile Methodologies (Scrum) • Test-Driven Development • Version Control Branching
Continuous Integration • UI/UX Design • Server & Database Management • Algorithm Time/Space Complexity Analysis
Search Engine Optimization • Socket & Kernel Programming • Client/Server Communication • Scientific Computation