

# DAVIS CARMICHAEL

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Portfolio



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## EDUCATION

**Chapman University, Fowler School of Engineering, Schmidt College of Science and Technology**  
**Orange, CA**

*Bachelors of Science in Physics and Bachelors of Science in Computer Science*

*December 2022*

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## PROJECTS

### **Desmos Language Model and Computer Algebra System**

*Developed a custom computer algebra system allowing users to input equations and generate solutions for all possible permutations. Utilized Rust, Haskell, and Shell Scripts, leveraging Dockerfiles for seamless deployment.*

- Designed the algorithm for parsing mathematical syntax and generating permutations.
- Implemented the program in Rust and Haskell, ensuring robust functionality.
- Orchestrated deployment using Dockerfiles, streamlining accessibility for users.
- Enhanced the efficiency of equation solving, providing a versatile tool for mathematical analysis.

### **Full-Stack Scheduler Website**

*Developed a full-stack web application to schedule physics tutoring sessions. Implemented with MongoDB, React, and Node. Hosted on Netlify.*

- Created an intuitive and accessible user experience using React
- Implemented user authentication with Google OAuth-2.
- Stored appointment data in MongoDB, while protecting users personal information.
- Implemented backend functionality using Netlify serverless functions.
- Built and deployed using Netlify CI/CD.

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## SKILLS

- Programming Languages: Java, JavaScript, C/C++, C#, Python, Rust, Haskell
- Database Technologies: DynamoDB, SQL, MongoDB
- Docker and System Programming
- Classical Mechanics, Thermodynamics, Quantum Mechanics, Optics; Laboratory and Theory
- Mathematical and Scientific Computing Methods of Analysis

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## EXPERIENCE

### **Costco Wholesale**

*Food Service Assistant*

**Tustin, CA**

*July 2023 – Present*

### **Chapman University Tutoring and Learning Center**

*Supplemental Instructor*

**Orange, CA**

*August 2022 – December 2022*

### **Evan's Creek Landscaping**

*Landscape Technician*

**Sammamish, WA**

*Summer 2019, Summer 2021*

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## LEADERSHIP

**Chapman's Cross Country/Track & Field Team Leadership Committee**  
**2021**

**July 2019 – May**

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## CHARACTERISTICS

- *Awards:* Washington State Honors Award, Highest Athletics Team GPA 4 years (Cross Country)

- *Traits:* Communication, Adaptability, Leadership, Collaboration