Edward Speer · *Software Engineering Student*

espeer5.github.io/ESpeer

Location:	Pasadena, CA	**Phone:**	(512)-375-5674
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Skills

Languages:		**Development Tools:**	
	- Python (7 years)		- Git/Github
	- C (3 years)		- Agile/Scrum
	- Java (2 years)		- Bash Scripting
	- Assembly (2 year)		- Linux Environments
	- Matlab (2 years)		- Data Structures
	- Julia (1 year)		- SQL
	- OCaml (1 year)		- Object-Oriented Design

Education

California Institute of Technology

- Bachelor's in Computer Science — June 2025 — 3.8 GPA

- NCAA Baseball Player

- **Coursework:** Experimental Robotics · Embedded Systems · Digital Logic/CPU Design · Algorithms · Data Structures · Systems Programming · Software Design · Functional Programming · Decidability and Tractability · Compilers · Discrete Math · Learning Systems

Experience

Climate Modeling Alliance (CliMA) — Software Development Intern — Summer 2023

- Collaborated with a multidisciplinary team of research scientists and engineers to develop a next-generation earth system model, aimed at advancing understanding of climate dynamics and environmental science.

- Worked extensively with open source code in Julia, contributing to the development and enhancement of the codebase, implementing scientific models in Julia code to facilitate simulations of the land surface.

- Ensured the quality and reliability of the software through thorough testing, debugging, and troubleshooting, resulting in optimized performance and accuracy of the simulations.

Caltech — Teaching Assistant, Introduction to Computer Science — Fall 2022

- Demonstrated expertise in Python programming, including data processing, file I/O, utilization of Python plotting packages, code structuring, and object-oriented programming (OOP) principles.

- Facilitated student learning by conducting weekly discussion sessions, providing clarification on programming concepts, and offering guidance on assignments and projects.

- Demonstrated effective communication and interpersonal skills, fostering a positive and inclusive learning environment.

Texas Department of Transportation — Engineering Support Intern — Summer 2022

- Supported the project management database tool by building informative dashboards to report project metrics and statuses, providing valuable insights to department leaders for informed decision-making.

- Played a vital role in a database cleanup initiative, ensuring consistency and standardization of the reporting format used by project managers to input metrics into the database.

Projects

- NormStorm — Autonomous Mapping Rover — Equipped with IR sensors and ultrasounds, with collission avoidance and path finding software — Github

- Embedded Hexer Game — Atmel 64 Mega Programmed in Assembly to play a Hexer puzzle with embedded peripheral devices including 2 multiplexed LED displays, speaker, and software debounced buttons — Github

- Caltech10 CPU — A CPU harware spec written in Abel which may be installed on a PLD and given input through an array of switches to encode Assembly instructions — Github

- SpaceTanks — A video game written in C in which a user navigates a ship through an asteroid field, fighting against enemy ships — Github