# Hilal Morrar

510-520-9271 | hilalmorrar@gmail.com
linkedin.com/in/hilal-morrar/ | github.com/hamorrar | hilalmorrar.com | doubledip.dev

## Education

**University of Texas at Austin** August 2023 – May 2025
*Masters of Science, Computer Science* *Austin, Texas*

**University of California, Santa Cruz** September 2018 – June 2022
*Bachelors of Science, Computer Science* *Santa Cruz, CA*

- Cumulative GPA: 3.43, Dean's Honor List in Spring 2019, Summer 2020.
- Coursework: Software Engineering, Data Structures and Algorithms, Distributed Systems, Machine Learning, Operating Systems, Parallel Programming, Artificial Intelligence, Statistics, Numerical Analysis

## Experience

**Computer Science Undergraduate Teaching Assistant** September 2019 – June 2022
*Baskin School of Engineering - Computer Science and Engineering Department* *Santa Cruz, CA*

- Led regular tutoring sessions for Applied Discrete Math, Computer Systems and Assembly Language, and Introduction to Python courses.
- Students consistently rated my sessions at least 8/10 and noticed an average grade increase of 9%.
- Designed and graded weekly quizzes and Python assignments for Artificial Intelligence, Machine Learning courses.

**Frontend Software Engineer** July 2020 – September 2020
*UC Santa Cruz - Resilient Renewable Efficient Energy Systems Lab* *Santa Cruz, CA*

- Worked in an Agile team environment to build a device to monitor energy data in a residential network.
- Developed the frontend of a UCSC research lab website using React and JavaScript for UI/UX design.
- Connected frontend and backend to send, receive, and process user input for device registration via JSON.

## Research

**Applied Machine Learning Lab Research Assistant** September 2020 – August 2021
*Baskin School of Engineering - Computer Science and Engineering Department* *Santa Cruz, CA*

- Assisted on two projects in cognitive electrophysiology and data science under Professor Narges Norouzi.
- Designed and implemented various convolutional neural network architectures to make predictions based on time-series data with PyTorch.
- Parallelized and distributed model training across several cloud GPU clusters with Kubernetes to reduce training time by 50%.

## Projects

**Distributed Key-Value Store** | *Go, Git, Docker* February 2023 – Present

- Developing the back-end API of a distributed, fault tolerant, consistent, and sharded key-value store.
- Utilizing Goroutines for concurrency when handling client and internal HTTP requests for system communication.
- Implementing a data hashing algorithm to broadcast data across multiple nodes equally.

**RustOS** | *Rust, Git* January 2023 – Present

- Building a simple Operating System in Rust as a way to take a project-based approach to learning the language.
- Implementing all basic parts of the system including CPU Interrupts, Memory Management, and Multitasking.

**TagMe** | *Electron, Go, Git, Node.js, HTML/CSS* January 2022 – March 2022

- Worked in an Agile team to make a cross platform, full stack desktop application to search files by custom tags.
- Responsible for UI and frontend functionality, designed and implemented backend unit tests in Node.js.

## Technical Skills

**Languages**: Go, Python, C, C++, Java, Assembly, JavaScript, HTML/CSS, Rust
**Frameworks/Libraries**: Agile, Gin, PyTorch, TensorFlow, NumPy, pandas, Keras, scikit-learn, Electron, React
**Developer Tools**: Git, Docker, Command Line, Google Colabs, Jupyter Notebooks, Linux/Unix, Kubernetes