Hilal Morrar

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EXPERIENCE

Software Engineer Intern — May 2024 – August 2024
Cisco Systems - Duo Security — *San Francisco, CA*
- Improved an internal performance testing tool by adding a feature using Python, AWS EC2, and MySQL to dynamically create simulated customers and generate realistic HTTP requests.
- Executed load testing suites with GitHub CI/CD pipelines to monitor and validate software release performance metrics using Datadog, Grafana, and Kibana dashboards for observability and incident response.
- Diagnosed and fixed deployment issues in Kubernetes clusters with Python and Docker, contributing to improved system reliability and reducing the risk of service degradation or on-call incidents.

Software Engineer Intern — May 2023 – August 2023
Stealth Startup — *Remote*
- Designed and implemented a REST API for a distributed, fault tolerant, consistent, and sharded key-value store using Go and Docker.
- Utilized Goroutines for concurrency when handling client and internal HTTP requests for system communication.
- Developed the resharding algorithm and internal API routes to support dynamic replica coordination and data rebalancing, and wrote Bash scripts to automate setup and teardown processes.

Machine Learning Engineer — September 2020 – August 2021
Applied Machine Learning Lab — *Santa Cruz, CA*
- Led the design and training efforts of various neural network model architectures to make predictions based on time-series data with PyTorch.
- Evaluated and tuned machine learning models using techniques like hyperparameter optimization, regularization, and pruning to achieve 95% accuracy.
- Improved data processing pipeline to distribute model training in a Kubernetes GPU cloud cluster to reduce training time by 50%.

Frontend Software Engineer — July 2020 – September 2020
Resilient Renewable Efficient Energy Systems — *Santa Cruz, CA*
- Built a user interface to register IoT devices using React, JavaScript, and AWS S3 for data storage in collaboration with hardware and product teams.
- Coordinated end to end integration with backend services on AWS EC2, ensuring smooth device onboarding and monitoring workflows.
- Enhanced user experience by optimizing data handling and client side input validation.

PROJECTS

Connect4 Artificial Intelligence Agent | *Python*
- Developed an AI agent for Connect4 using heuristic evaluation to simulate strategic gameplay across multiple player configurations.
- Programmed game state tracking and board evaluation algorithms to support turn-based decision making.
- Engineered gameplay framework to support modular AI, human, and random players for dynamic matchups.

EDUCATION

University of Texas at Austin — August 2023 – December 2024
Masters of Science, Computer Science — *Austin, Texas*
- Coursework: Artificial Intelligence, Database Systems, Distributed Systems, Prediction in Computer Architecture

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

TECHNICAL SKILLS

Languages: Assembly, C, C++, Go, HTML/CSS, Java, JavaScript, Python
Frameworks/Libraries: Agile, Gin, Keras, NumPy, PyTorch, React, TensorFlow, pandas, scikit-learn
Developer Tools: Atlassian, Docker, Git, Jira, Kubernetes, Linux/Unix, MySQL, PostgreSQL, Slack, Terraform