

Hariharan Sezhiyan

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Education

- UC Davis, BS Computer Science and Engineering, Mathematics Minor. **3.8 GPA, Magna Cum Laude**
- Research assistant in the [DECAL lab](#), focused on software engineering research
- Project Manager, UC Davis Artificial Intelligence Society

Publications

- Code to Comment "Translation": Data, Metrics, Baseline & Evaluation, [Accepted](#) at the 36 th IEEE/ACM International Conference on Automated Software Engineering (**shared first author**)
- Generic Reinforcement Learning Codebase in TensorFlow, [Accepted](#) at the Journal of Open Source Software

Technical Skills

- Experienced: Distributed Systems, Python, Go, Docker, Kubernetes, Kubeflow, Metaflow, CICD, C++, C
- Exposure: Spark, Hadoop, Kafka, Airflow, TensorFlow/PyTorch, Data Engineering, NLP for source code

Research Experience

UC Davis DECAL Lab | Student Researcher | Davis, CA

September 2019 - June 2020

- I worked with Prof. Devanbu on a project analyzing the datasets in the popular code to comment translation (CCT) research space. I identified key statistical results, including:
 - Common code comments (e.g. getters/setters) produce substantial repetition in CCT datasets, making it easier for models to perform well under traditional translation metrics, like BLEU.
 - The input-output dependency is much weaker in CCT datasets than in natural language datasets.
 - As a result of the above findings, a naive information retrieval method achieved the performance of SOTA deep learning models in the chosen CCT datasets.

FOR.ai | Student Researcher | Davis, CA

June 2019 - September 2019

- I worked on a codebase to make reinforcement learning research easy by providing users a plug-and-play method to drop in different models, environments, and hyperparameters.

UC Davis Health | Student Researcher | Davis, CA

January 2020 - June 2020

- I worked on developing machine learning models to use echocardiogram and electrocardiogram data to determine the likelihood of a patient having arrhythmia.

Work Experience

Zillow Group | Machine Learning Engineer (AI Platform) II | Seattle, WA

July 2020 - Present

- This position is generally reserved for masters' level candidates or those with two years of experience.
- **Promoted** from SDE I to SDE II in 1 year (average in 1.5 - 2 years)
- **Developed and owned** a **parallel** integration testing framework for the AI Platform [Workflow SDK](#).
- **Developed and owned** a **Spark** SDK allowing data engineers to easily run Spark on Kubernetes. Used by 10 internal AI/data engineering teams.
- **Developed and owned** enabling scheduling and backfilling through CICD.
- **Developed and owned** an Airflow Operator to allow Airflow jobs to trigger Kubeflow runs.
- **Owned** the entire integration testing space for the AI Platform. Responsible for integration tests for: Workflow SDK, Spark on EKS, **Distributed PyTorch Training**, **Kubeflow Serving**.
- **Wrote and owned** the AI Platform's documentation. Very well received by customers.
- **Mentored** interns as part of the company intern-engineer matching program.

Innovation Minds | Backend Developer | San Jose, CA

Sept. 2019 - June 2020

- **Co-Lead** a project to match users with potential teammates based on skill set and personality type.
- **Lead** the backend/system subteam to build a **parallelized web scraper** in Python to scrape 100,000 LinkedIn profiles.
- Deployed to a production environment and maintained a node server on an **AWS lambda** instance. Used by 10 clients.

Zillow Group | Software Development Engineer Intern | Seattle, WA

June 2019 - September 2019

- **Developed** a unified **Jupyter notebook** experience for applied/data scientists to experiment with models/data easily. This service allows the user to specify packages needed for experimentation/modeling and track results with **mlflow**.
- **Lead a team of engineers** as part of Zillow Group's HackWeek. Delivered a product to allow search on Zillow.com around a geographic point of interest. I presented the product in front of 4000 employees.

Other Experiences

AI Society | Project Manager | Davis, CA

January 2019 - June 2020

- I founded AI Society with some colleagues to provide ways for students at UC Davis to break into machine learning, either in research or in industry.
- I conducted weekly sessions with students going over a particular topic on slides and code walkthrough.
- I organized a mentorship project with VMware through which 10 students were paired with 10 VMware employees to explore a research project related to machine learning.