Suryaprakash Vengadesan

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Education

University of California, Berkeley 08/2018 - 12/2022

B.S. Electrical Engineering and Computer Science

Work Experience

Tenstorrent, Machine Learning Engineer Intern 02/2022 - Present

- Developing models in **PyTorch** optimized for the Grayskull AI-accelerator on the **customer facing** team
- Hypertuning and benchmarking existing ML models (e.g. **BERT, EfficientNet**) on behalf of customers
- Training and running inference on multi-chip machines — load testing data parallel and model parallel servers

3DSystems, Software Engineer Intern 09/2021 - 01/2022

- Implemented an **API** that automates modifications for 3d printer settings, saving each user ~10 min. per print
- Coded functions to change 3d prints' layer-specific values (e.g. pressure, speed, height, active extruders, etc.)
- Developed in **Python** using **Jira, Bitbucket, Docker**, **Postman**, **Flask**, and **Google Cloud** Products
- Working on the Allevi and Oqton subteams – 3d printers used by 70+ academic institutions and private labs

Rimble, Software Engineer Intern 05/2021 - 08/2021

- Trained **LSTM**-based autoencoder to detect corrupted time series data and impute accurate values
- Tested 40 functions on game data that has since gone to production using **AWS s3** buckets
- Developed a script that performs highlights generation for video files by performing lightweight audio analysis

REM, Software Engineer & Co-Founder 05/2019 - 03/2020

- Built a charity recommendation and **donation app** called Rem which reached **300 users**
- Built using **Flutter** for front-end and **Firebase** and Google's **Compute Engine** for backend
- Raised >$2k in preseed money and accepted to **Harvard's i-Lab's** Spring 2020 Venture Program

NVIDIA, Machine Learning Engineer Consultant 08/2019 - 12/2019

- Built a code autocomplete tool for Python with two team members, supervised by Raul Puri from the ADLR team
- Hypertuned **GPT-2** Model on webscraped Python code using the **Huggingface API**
- Model reached perplexity of 3.19 and performed basic predictions (i.e. in: import numpy -> out: as np), code

Research + Teaching Experience

RAIL, Machine Learning Research Consultant 01/2021 - 05/2021

- Investigating how demonstration data quantity and quality affects **imitation learning**
- Ran pytorch experiments to imitation learn **OpenAI's LunarLander** with different environment parameters
- Part of three person team supervised by Sid Reddy, a graduate student advised by Prof. Sergey Levine at RAIL

Euler Circle, Teaching Assistant 06/2021 - 12/2021

- TA'd the **Transition to Proofs** Class and **Combinatorial Game Theory** Class
- Ran problem solving discussions, graded psets, and edited term papers

UCI Math Circle, Volunteer 01/2021- 05/2021

- Mentored 3rd to 6th graders to work through online math problems during Winter and Spring sessions
- Attended weekly mentor meetings with math graduate students to perform problem solving dry-runs

Coursework

Computer Science: Intro to ML, Complexity & Computability, Algorithms & Intractability, Machine Structures, Data Structures, Intro to CS, Discrete Math

Electrical Engineering: Optimization in Eng., Probability Theory, Systems and Devices II, Systems and Devices I

Mathematics: Real Analysis, Dynamic Optimization, Finite Optimization, Linear Algebra

Miscellaneous

Languages/Tools/Frameworks: Python, Java, C, AWS, GCP, Numpy, Pytorch, Tensorflow, Keras

Linkedin: linkedin.com/in/surya-v-63a7ba132 **Blog:** orange-sunshine.github.io