

SRIKHAR PADMANABHAN

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EDUCATION

University of Michigan, Ann Arbor, MI, **GPA: 3.779, Summa Cum Laude** Aug 2019 – Aug 2023

- **Computer Science:** *Bachelors in Science, Engineering (B.S.E)*, **Economics:** *Bachelor's in Science (B.S.)*

University of Chicago, Chicago, IL

Sept 2024 – Dec 2025 (expected)

- **Computer Science:** *Master of Science, (MS)*

RELEVANT WORK EXPERIENCE

Capital One, San Francisco, CA, *Associate Software Engineer* Aug 2023 – Sept 2024

- Onboarded data pipelines that retrieved internal Google Calendar data to a shared Airflow environment and stored it in **AWS S3**
 - Created scripts to backfill the data for previous years using **Python** and **AWS SQS**
 - Migrated legacy **AWS Lambda** functions to Airflow processes to better automate backfilling
- Maintained the data pipelines for Zoom as well as the pipelines for other internal application metrics
- Added new data fields to our Calendar, Zoom, and other data pipelines so that our database included more granular information
- Integrated the Zoom pipeline with New Relic to better track certain metrics such as participant count
- Maintained over 7 additional “log ingestion” pipelines that stored log data from the various apps in use company wide
- Created a new log ingestion pipeline that stored data in **Snowflake** that other teams used to grant privileges to users in real-time
- Led our team’s compliance effort, including vulnerability management, data privacy, and password / secret management
- Added automatic data quality checking for Zoom data upon entering **Snowflake**
- Presented our team’s data pipelines to various stakeholders including demos
- Technologies: **AWS (S3, SQS, SNS, Lambda, Fargate, Kinesis, etc)**, **Python, Apache Airflow, Snowflake, Jupyter, Kotlin**

TrueLark (Remote), Palo Alto, CA, *Part Time Developer*

May 2020 – May 2022, Sept 2022 – Sept 2023

- Helped automate customer service tasks for local businesses such as question answering, pricing, and appointment management
- Implemented a dictionary-based lookup utility to find service and staff name matches within customer communication
- Developed a representation for each kind of match using N-grams encoded into a one-hot vector
- Integrated into production using **Tensorflow Servings** and **Flask** significantly increasing precision, recall and accuracy
- Removed various layers and compared the performances to draft the documentation for Provisional and Utility Patent applications
- Wrote documentation for a patent application for our Simple Time Pattern Detector
 - Results showed 80% improvement over current state of the art (SUTime and Huggingface)
- Developed a zero-shot FAQ detector generalizable through pair recognition of semantically-related QA combinations
 - Model achieved over 95% precision and recall and was incorporated into production
 - Compared performance of this FAQ Detector to the state-of-the-art models to draft documentation for a patent application
 - This expedited onboarding for new and current businesses that updated their FAQ Answers, reducing computing costs/time
- Created a web crawler that indexed data in a structured format in order to answer queries about website automatically
 - Integrated this web crawler with an LLM so that when given a user query, it passes a context message to this LLM
 - Created a chatbot that given a URL responds to questions based on the information provided by the URL and its hyperlinks
 - This is currently in production for use in selected business at a trial level
- Languages: **Python, Java**; Frameworks: **Keras, Tensorflow, Scrapy, Apache Solr**

Capital One, Plano, TX, *Technology Intern*

June 2022 – August 2022

- Built a dashboard to display test data including stack traces, error logs, videos, and screenshots from Cypress tests
- Used a backend to store the data using **Express** and **S3** and converted it to a serverless architecture using **AWS Lambda**
- Created unit test suites for both the frontend and backend using **Jest** and **react-testing-library**
- Integrated this dashboard for use as an add-on to the current **Cypress** testing agent
- Presented a demo of this dashboard to the Cypress team and other stakeholders and created an instruction manual for users
 - Currently in production and used by thousands of developers
- Languages and Frameworks: **ReactJS, ExpressJS, Javascript, Typescript, S3, Lambda, PostgreSQL, DynamoDB, HTML**

ACADEMIC PROJECTS

Market Simulator (Strategic Reasoning Group): Machine Learning

Feb 2023 – Aug 2023

- Created a continuous double auction market simulator with a variety of agents / traders using C++
- This could later be interfaced with reinforcement learning as part of the Strategic Reasoning Group
- Implemented the simulator, scheduler, & other simulator-specific data structures (random queue and random priority queue)
- Drafted documentation for each of the files which comprised of the overall class structure and an explanation of each member variable and function

SKILLS

Python, C++, Tensorflow, Keras, PyTorch, Algorithms, MATLAB, Java, JS/TS, Rust, HTML, C#, Unity, Golang, AWS, Problem Solving