SRIKHAR PADMANABHAN

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EDUCATION

University of Chicago, Chicago, IL — Sept 2024 – Dec 2025 (expected)

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

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

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

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 over 20 data pipelines including Zoom and GCP among others
- Added over 30 new data fields to these data pipelines to include more granular information in our backend
- Integrated the Zoom pipeline with New Relic to better track multiple metrics such as participant count
- Maintained over 7 additional "log ingestion" pipelines that stored log data from the various apps used nationwide
- 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 automated data quality checking for Zoom data upon entering **Snowflake**
- Presented our team's data pipelines to various stakeholders through 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

- Automated 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 layers and compared the performances to draft the documentation for **Provisional & Utility Patent applications (1st)**
- Wrote documentation for **patent application (2nd)** for the 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
  - With Transformer-based architecture, model achieved both 95% precision and recall and was incorporated into production
  - Compared performance of this FAQ Detector to state-of-the-art models to draft documentation for **patent application (3rd)**
  - 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, Javascipt, 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 file which described the overall class structure and explained each member variable and function

SKILLS

Technical: Python, C++, Tensorflow/Keras, PyTorch, ML/AI, Deep Learning, NLP, Algorithms, MATLAB, JS/TS, Rust, , Golang, AWS
Personal: Problem Solving, Collaboration, Judgement, Communication, Creativity, Critical Thinking, Resilience, Dependability