Parth Saxena

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Education

University of Illinois Urbana-Champaign   **Aug 2020 – May 2024**
B.S in Computer Science   *4.0 GPA*
M.S in Computer Science   *4.0 GPA*

Relevant Coursework

- Artificial Intelligence
- Algorithms & Computation Models
- Data Structures
- High Frequency Trading
- Applied Machine Learning
- Compilers
- Natural Language Processing
- Systems Programming
- Database Systems

Experience

Torch Sensors | *Software Engineer Intern*   **May 2023 - August 2023**

- Designed **data infrastructure on AWS cloud** for an outdoor fire detection startup to ingest incoming payloads from sensors over **LoRaWAN protocol** and populate **Timestream & DynamoDB** databases.
- Developed **serverless internal websocket API** using **Lambda functions & API Gateway**, enabling **real-time data retrieval**, sensor installation, property creation, and more.
- Built a **Swift-based mobile application** to support **property monitoring** and **provide critical insights for property owners**.
- Spearheaded development of an **automated system to source real-time data** from **third-party fire agencies** and integrate it into the product.

Forward Data Lab | *Researcher*   **May 2022 - August 2022**

- Built a **search engine to instantly view research papers** relating to **abstract ideas or concepts**, as well as a **hierarchical view of related parent topics and subtopics.**
- Developed **a web-based IDE** for database adminstrators to execute **Python scripts in a sandboxed environment** to **identify unsanitized data, process data imports, build metrics**, and perform other data management tasks.
- Developed a **document parser** to perform **named entity recognition (NER)** to uniquely identify **Concepts, Works, Venues, Institutions, and Authors** across thousands of research journals.

Robin.io (Acquired by Rakuten) | *Software Engineer Intern*   **May 2021 - July 2021**

- Added **backup support** for data-intensive **applications deployed on Kubernetes**. Used **S3 protocol** for object transmission to **IBM Cloud Object Store buckets**.
- Created a **realtime analytics dashboard** that **integrated data from Prometheus** to **monitor volume statistics** of individual nodes on a cluster over a 10 second interval. Provided **read & write speeds**, **iOPS per second**, **total bytes read/written**, **queue depth statistics**, and more.

MTRbot | *Automated crypto trading system*   **September 2018 - August 2019**

- Developed an **automated trading system that used various technical indicators to analyze market patterns** as well as a **bot to exploit arbitrage opportunities** across leading cryptocurrency exchanges (Binance, Bittrex, Bitfinex, Kucoin, and more).
- Raised over ∼$23k from friends & family willing to invest in MTRfund.

VoiceEDx | *Machine-learning diagnostic platform*   **September 2017 - August 2019**

- Worked with a team of 3 engineers to develop a **machine-learning diagnostic platform** to discern patterns in **patients' voices** that are indicative of several neurological disorders, including **Parkinson's, ALS, TBI, and more**. Achieved an **average sensitivity of 68% across all diseases.**
- Developed a **scalable backend infrastructure** to allow for seamless expansion to more diseases, **paired with an iOS app, Android app, web app, and toll-free call-in system** to maximize accessibility.

Technical Skills

Languages/Platforms: Python, Java, C/C++, JavaScript, Swift, SQL, AWS, Azure, GCP, Kubernetes

Awards

- Intel ISEF 2018 4th-place (IC)
- Intel ISEF 2017 4th-place (IC)
- Intel Excellence in CS
- SAMVID Excellence in AI
- Eagle Scout
- National Merit Scholarship Finalist