

Aditya Saxena

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WORK EXPERIENCE

Amazon

Arlington, V.A.

Software Development Engineer

Apr 2020 - Present

- Working with a team under Alexa privacy whose objective is to ensure that Alexa is in compliance with international privacy and data protection laws such as GDPR, DSAR Compliance, etc.
- Led the development of a robust team-level ticketing system (**25000+ lines of code**) as a microservice to streamline processes that reduced the overall time taken to complete a customer request by **20x**. Developed scripts in Python & Hive to efficiently backfill a database containing **500 million rows** within 36 hours, and migrated the tech stack used for a legacy service to a native AWS environment in less than a **month**.
- Onboarded and trained new hires, took ownership of multiple services by proactively communicating with service owners, creating documentation for processes, and worked on a regular basis with core AWS services such as SQS, SNS, EC2, Lambda, CloudWatch, EMR, Redshift (for business intelligence), ElastiCache, and other internal tools, deployment pipelines, and technologies like Docker, YAML, Ruby, React, MySQL, and Redux.

Washington Post

Washington, D.C.

Engineering Intern

May 2019 - Aug 2019

- Led the development of a whole pipeline in Java & Python (**10000+ lines of code**) in a team of four, for tiling, augmenting, validating, sorting, and visualizing training data for CNN models related to newsletter recommendations. Reduced the training time of models by up to 35%, and increased the accuracy of internally trained YOLOv2 model by 14% (as measured by a withhold image test set).
- Developed scripts in Java to analyze the predictions to compute accuracy, confusion matrix, and visualize bathtub curves. Performed hyper parameter tuning, and experimental study to fine tune model architectures decreasing type-2 error by **5%**.
- Organized a seminar with the rest of the intern team and senior engineers on using Functional Programming principles in Java for demonstrating its flexible and powerful scripting ability. Practiced Agile (Scrum) with 8 other developers in 2 week sprints. Learned to work with various technologies like Apache Kafka, Apache Flume, Joyent Triton, JIRA Confluence, Google Cloud (Runner), Git, Fabric, Bloodhound in an efficient and time-critical manner.

EDUCATION

UNIVERSITY OF MINNESOTA

B.S. Computer Science | College of Science and Engineering | Aug 2017 - Dec 2019

- Cumulative GPA: **3.126/4.0**;
- Activities: Dean's List | Campus Representative for International Students (ISSS), Minnesota Student Association.
- Relevant Coursework: Algorithms and Data Structures (Java), Advanced Programming Principles (Clojure & OCaml), Operating Systems (C), Database Fundamentals (SQL), Program Design & Development (C++), Machine Architecture and Organization, Linear Algebra, Discrete Mathematics, Probability and Statistics.

PROJECTS

Skills: Proficient in Java, C, C++, HTML/CSS, Swift/iPhone, AWS; familiar with Python, Javascript, Unix/Linux, Node.js, Ruby on Rails, MATLAB. (Source code available at: github.com/asaxena1415)

Tic-Tac-Toe:

A parent name for the game that allows you to play different variants of the simple Tic-Tac-Toe game. Variants include Simple, Ultimate, Crooked, 3D, Misere, Notakto, Quixo, and Wild. Each of these variants allow people to play in "2-Player Mode" or "v/s Computer Mode". Leveraged engineering algorithms to make a sophisticated computer player that can play on 3 levels against the human player. Project also involved making a website that provides an interactive GUI to play different variants. Built in, Python, Java, JavaScript, HTML & CSS, Unity 3D, and PHP. Currently working toward using Machine Learning and Artificial Intelligence to increase the efficiency of the computer bot so that it can learn from its mistakes and play in a better manner for some advanced variants of the game.

- **Bus Line Simulation:**

Project involved using a Priority Queue and a combination of other data structures in Java (**5000+ lines of code**) to implement a discrete simulation of busses running in the city of Minneapolis. Project also involved documentation and collection of analysis for the bus simulation which were presented in an official project document at the end, suggesting and justifying the use of particular type of busses to increase efficiency by analysing the statistics collected.