**Subramanyam Makam**
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## Education

**University of California San Diego** — San Diego, CA
*Master of Science in Computer Science and Engineering CGPA 4.0/4.0* — *Expected: March 2023*

**International Institute of Information Technology (IIIT-H)** — Hyderabad, India
*Bachelors in Computer Science (Hons. Computer Vision) CGPA 9.36/10 (3.8/4.0), Dean's List recipient* — *July 2020*

## Experience

**Amazon.com, Inc.** — Bangalore, India
*Software Development Engineer · Amazon Fresh* — *Dec 2020 - Aug 2021*

- Developed a precompute system from scratch using AWS infrastructure to compute product data required for recommendation projects across Amazon Fresh. The computed data is used for generating faster recommendations and improving customer experience.
- Designed the infrastructure for the precompute system and led its extensibility and scalability across multiple usecases. Impact: Extensibility of precompute system helped in driving three recommendation projects to success at faster pace, saving an effort of approximately 9 months. All recommendation projects in future will be leveraging precompute.
- Developed a widget on Amazon Fresh titled Savings Maximizer providing product recommendations with lowest price per unit, customer brand preference at millisecond latency, enabling customers to maximise their savings in grocery purchase. Impact: The widget created a significant increase in order product sales and increased revenue by 10 percent for Amazon Fresh search pages.
- Technologies used: Java, Typescript, AWS: S3, DynamoDB, SNS, Lambda, SQS, Stepfunction, Cloudwatch

**Adobe Inc.** — Noida, India
*Software Development Engineer, Adobe Acrobat · Software Intern, Adobe Exchange* — *Aug 2020 - Dec 2020, May 2019 - July 2019*

- Engineer in the AcrobatJS team at Adobe, goal is to build a fully functional Adobe Acrobat on the web. Worked in the field of mobile optimization, developed zooming capability in slide mode PDF view, onboarded inline search and page scrubber on Acrobat web.
- Software Engineer Intern in Adobe Exchange team (exchange.adobe.com). Built a recommendation system to recommend product extensions to customers using a siamese positive-negative pair neural network and integrated it with Adobe Exchange. Achieved an accuracy of 82 percent for the model and increased click rate by 20 percent for Adobe Exchange. (PPO offered)
- Technologies used: React, Redux, Java, Python, Tensorflow

**International Institute of Information Technology (IIIT-H)** — Hyderabad, India
*Undergraduate Researcher · Teaching Assistant* — *May 2018 - July 2020*

- Full time honours student at Computer vision lab under the director of IIIT (Prof P.J.Narayanan). Developed an unsupervised algorithm to learn image representation in style space which can be used for image retrieval. Research paper was accepted at WACV 2020. Performed extensive research and developed a system using deep learning to perform view extrapolation on real world images.
- Teaching assistant for Optimization methods (Spring 20), Operating Systems (Fall 18) and Machine Learning (Fall 19) courses.

## Achievements

– **Deans Academic Award** for all semesters till date for excellence in academics. (Top 3% of the batch)
– **Best project award** for my project on recommendation systems during internship at **Adobe**.
– **ACM ICPC (International Collegiate Programming Contest)** Ranked $2^{nd}$ among all participates in UC San Diego at the ICPC North America Qualifier, (name: UCSD Team 5). Will be representing UC San Diego at the Southern California Regionals held in Feb 2022.
– **Finished 1st in Hackathon** conducted by **Walmart Labs**, designed a conversational flow chat-bot using machine learning techniques.
– **Competitive Programming** Codeforces Rating: 1771, handle: bruc_wayne, level: expert **Ranked in top 1%** among 8000+ participants in a div2 contest.

## Projects & Skills

**Comment System for GraphSpace** (Open source org NRNB, Tech: Python, Django, HTML, CSS, Socket Programming)
– Implemented a real-time comment system similar to google docs comments for GraphSpace platform (www.graphspace.org) of NRNB open source organization using concepts of websockets/network programming. Blog summarizing by work: link.

**Ultimate TicTacToe** (Artificial Intelligence course, Tech: Python)
– Developed a bot using alpha beta heuristic search and minimax algorithm to play tic-tac-toe in a 16 X 16 grid in python. Github: link

**BFS distributed systems** (Distributed Systems course, Tech: Erlang, Python)
– Implemented a breadth-first search in a distributed environment using algorithms such as sequential search, parallel search, 1D partitioning and 2D partitioning techniques. Performed in depth analysis and experiments on all algorithms. Project summary: link

**Programming Languages, Libraries and Tools**: C++, Python, Java, C, HTML, CSS, MySQL, Javascript, TypeScript, AWS, Pytorch, Tensorflow, Django, React, scikit-learn, OpenCV