

# Makam Naga Siva Subramanyam

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## EDUCATION

### University of California San Diego

*Master of Science in Computer Science and Engineering*

San Diego, CA

*Expected: March 2023*

### International Institute of Information Technology (IIIT-H)

*Bachelor of Technology in Computer Science (Hons. Computer Vision) CGPA 9.36/10*

Hyderabad, India

*July 2020*

## EXPERIENCE

### Amazon.com, Inc.

*Software Development Engineer · Amazon Fresh*

Bangalore, India

*Dec 2020 - Aug 2021*

- Engineer in Customer Experience team of Amazon Fresh (world wide grocery delivery service), goal is to build software to recommend grocery items to users on Amazon web pages. Designed, developed and released a scalable and extensible precompute system from scratch using AWS infrastructure to compute product data required for multiple recommendation projects across Amazon Fresh.
- Developed a recommendation widget titled Savings Maximizer providing product recommendation with lowest price per unit, customer brand preference at millisecond latency, enabling customers to maximise their savings in grocery purchase.
- Impact: Extensibility of precompute system helped in driving Supersaver, Inline upsell, Savings maximizer recommendation projects to success, saving an effort of approximately 3 months for each project. Savings Maximizer widget increased Amazon Fresh pages sessions by around 10 percent and is estimated to create significant increase in order product sales in terms of revenue for Amazon Fresh.

### Adobe Inc.

*Software Development Engineer · Machine Learning Intern*

Noida, India

*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.
- Machine learning intern in Adobe Exchange team ([exchange.adobe.com](https://exchange.adobe.com)). Built a recommendation system to recommend product extensions to customers using a siamese positive-negative pair neural network for Adobe Exchange Platform. Achieved an accuracy of 82 percent in generating recommendations to users. Built a generic model adaptable to different platforms of Adobe. (PPO offered)

### International Institute of Information Technology (IIIT-H)

*Undergraduate Researcher · Teaching Assistant*

Hyderabad, India

*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.

## PROJECTS & SKILLS

### Computer Vision and ML projects

- Developed a deep learning system using encoder-decoder network to separate foreground and background of an image.
- Developed algorithms for multi-label classification of face images using dimensionality reduction and ML algorithms.

### Ultimate TicTacToe

- Developed a bot using alpha beta heuristic search and minimax algorithm to play tic-tac-toe in a 16 X 16 grid.

### Proxy Server

- Implemented a multi-threaded proxy server which servers multiple requests from users using TCP/UDP protocols for file transfer with LRU (least recently used) caching for faster file transfer.

### BFS distributed systems

- Implemented a breadth-first search in a distributed environment using algorithms such as sequential search, parallel search, 1D partitioning and 2D partitioning techniques.

### Mini Linux Shell

- Developed a shell coded in C++ with features like killing a process, input/output redirection, piping etc.

### Computer Graphics Game development Projects

- Developed games similar to Mario (2D), Legend of Zelda (3D) and Tunnel Rush (3D) using OpenGL (C++) and WebGL (Javascript).
- Incorporated particle effects, projectile physics and collider mechanics in the games developed.

**Programming Languages:** C++, Python, Java, C, HTML, CSS, MySQL, Javascript, TypeScript

**Libraries and Tools:** AWS, Pytorch, Tensorflow, Django, React, scikit-learn, OpenCV

**Relevant Courses:** Computer Programming, Data structures, Algorithms, Software Engineering, Operating Systems, Computer Networks, Computer Vision, Database systems, Distributed Systems, Optimization Methods, Artificial Intelligence, Machine Learning