Naga Siva Subramanyam Makam
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Education

University of California San Diego — San Diego, CA
Master of Science in Computer Science and Engineering — *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 extensiblity 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.
- Technologies used: Java, Typescript, AWS: S3, DynamoDB, SNS, Lambda, SQS, Stepfunction, Cloudwatch

Adobe Inc. — Noida, India
Software Development Engineer · Software Engineer Intern — *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 revenue 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.

Projects & Skills

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

BFS distributed systems (Distributed Systems course)
– 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

Machine Learning and Computer Vision projects (Machine Learning and Computer Vision courses)
– 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.
– Developed games similar to Mario (2D), Legend of Zelda (3D) and Tunnel Rush (3D) using OpenGL (C++) and WebGL (Javascript).

Proxy Server (Computer Networks course)
– 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 using HTTP response codes.

Mini Linux Shell (Operating Systems course)
– Developed a shell coded in C++ with features like killing a process, input/output redirection, piping etc.

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