

LAMHA GOEL

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EDUCATION

B.Tech. (Honors) in Computer Science and Engineering

Indraprastha Institute of Information Technology, Delhi

Recipient of Chancellor's Gold Medal

Aug 2015 - May 2019

CGPA: 10/10

Department Rank: 1

Senior Secondary Education, Class XII

Veda Vyasa D.A.V. Public School, Delhi

Central Board of Secondary Education

Apr 2014 - Mar 2015

Percentage: 96.6%

WORK EXPERIENCE

Microsoft

Software Engineer 2

Implemented the API backing Designer in Word, used regularly by millions of users to revamp the look of the document in a single click. Improved interactive performance of a feature from 400 ms to about 10 ms. Currently, re-designing and re-architecting major components to improve collaboration experience on Word and reduce the tech debt. In addition to existing responsibilities I had as a SWE1, I am the main point of contact for owned areas and provide regular code reviews, lead design discussions, ensure documentation and give knowledge sharing talks.

Feb 2021 - Present

Microsoft

Software Engineer

Independently designed and developed multiple features end-to-end on Word Online product. Completed proper integration with the various Word flows like undo, co-authoring, copy-paste etc. Re-architected and refactored a large amount of code to support modification of certain initially immutable objects, with the team. Also handled on-call responsibilities to ensure good customer experience.

Jul 2019 - Feb 2021

Amazon

Software Development Intern

Designed and implemented a push notifications system for the Amazon Relay website. Ensured seamless collaboration with Amazon internal tools and AWS tools. Integrated with the mail pipeline to enable mail notifications as well.

May 2018 - Jul 2018

3Dexter

Operations Intern

Taught students about using 3D designing software and 3D printers in summer camps organized in schools.

May 2017 - Jun 2017

RESEARCH EXPERIENCE

Image Analysis and Biometrics Lab

Undergraduate Research - Independent Project and B.Tech. Thesis

Advisors: [Dr. Mayank Vatsa](#), [Dr. Richa Singh](#)

The work was to develop Machine Learning approaches to improve classification performance for small databases, and apply these to improve facial recognition. Using Convolutional Neural Networks, I explored various collaboration and domain adaptation techniques. Later, I researched about self-supervised learning and Generative Adversarial Networks to develop more sophisticated methods. [[Thesis](#)]

Aug 2017 - Jun 2019

PUBLICATIONS

LC-DECAL: Label Consistent Deep Collaborative Learning for Face Recognition

IEEE International Conference on Biometrics: Theory, Applications and Systems, BTAS 2019

[Link](#) | [PDF](#) | [Slides](#)

SKILLS AND INTERESTS

Interest Area	Machine Learning, Computer Vision, Natural Language Processing
Programming Languages	C, Java, Python, C++, C#
Tools and Technologies	Scikit-learn, Theano, PyTorch, LaTeX, Git, MySQL, MATLAB, JavaScript, TypeScript, React
Relevant coursework	Machine Learning, Statistical Machine Learning, Artificial Intelligence, Advanced Machine Learning, Computer Vision, Image Analysis, Theory of Computation, Modern Algorithm Design, Graph Theory

PROJECTS

Learning to play Go	<i>Sep 2018 - Dec 2018</i>
Trained an artificially intelligent player for Go for smaller sized boards using Reinforcement Learning. Used self-play to enable the agent to learn by playing against itself. Experimented with different RL algorithms: Alpha-Beta pruning, Deep Q Network (DQN), Double DQN, and Advantage Actor-Critic method.	
Adversarial Perturbation Modelling	<i>Aug 2018 - Nov 2018</i>
Trained an auto-encoder model to generate adversarial perturbations for images to worsen the classification on any model for any dataset in a similar domain without altering the images much visually. [Report]	
Subclass Restricted Boltzmann Machine for Facial Retouching Detection	<i>Feb 2018 - Apr 2018</i>
Developed an approach to train RBMs utilizing subclass information to generate discriminative representation, better suitable for classification. Used to detect whether a facial image has been retouched. [Report]	
Monocular Simultaneous Localization and Mapping (SLAM)	<i>Feb 2018 - Apr 2018</i>
Explored PTAM, LSD SLAM and ORB-SLAM algorithms used for Monocular SLAM and analyzed their performances in different scenarios, using benchmark databases. [Report]	
Oil Spill and Ship Wake Detection	<i>Sep 2017 - Nov 2017</i>
Developed a system to detect the presence of oil spill and ship wake in a given SAR image. Also estimated the direction of the ship. [Slides]	
Movie Recommender System	<i>Aug 2017 - Nov 2017</i>
Explored and implemented various algorithms including k-Nearest Neighbours and Long Short Interest Model for a recommender system using the MovieLens 100K dataset. [Report]	

POSITIONS OF RESPONSIBILITY

Teaching Assistant for Machine Learning course	<i>Aug 2018 - Dec 2018</i>
Teaching Assistant for Fundamentals of Database Systems course	<i>Jan 2018 - Apr 2018</i>
Volunteered to teach students of class 3 rd to 7 th and basics of computers to others	<i>May 2016 - Jul 2016</i>

AWARDS AND ACHIEVEMENTS

Sponsored by Microsoft to attend Grace Hopper Celebration (vGHC 2021)

Recognized for hosting knowledge sharing sessions for the team multiple times (Microsoft, 2021)

Hackathon winner for Word for the project *Draw Your Mind* (Microsoft, 2020)

Among top 150 winners of Code Jam to I/O for Women 2018 and 2019 (Rank: 98 (2018), 64 (2019))

The first student to graduate with CGPA 10 in the history of my B.Tech. institute (IIIT-D)

Dean's list for academic excellence every year of my undergraduate program (B.Tech, IIIT-D)