

SEEMANDHAR JAIN

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EDUCATION

- University of Illinois Urbana-Champaign (**Siebel Scholar, Class of 2024**) II, USA
Master of Science in Computer Science; GPA: 3.92/4 (**Fully Funded**) Aug 2022 - May 2024
Thesis Advisor: Dr. David Forsyth
- IIT Indore Indore, India
Bachelor of Technology in Computer Science and Engineering; GPA: 3.6/4 July 2017 - May 2021
Minor in Humanities and Social Sciences; GPA: 3.6/4

SKILLS

Programming Languages: Python, Java, C/C++, Apex, R, SQL, Matlab.

Tools and Web Technologies: Django, Flask, AWS, HTML, CSS, React, Docker, Tableau, Mulesoft, Bootstrap, PHP, Scilab, Git.

Research Skills: AI, Computer Vision: 3D Reconstruction, 3D Vision, Convex Decomposition, Diffusion Models, GANs, NeRF

Technologies: PyTorch, JAX, TensorFlow, Deep Learning, Azure, Kubernetes, CUDA

WORK/RESEARCH EXPERIENCE

- University of Illinois Urbana-Champaign, IL, USA,** Aug 2022 - Present
Graduate Teaching/Research Assistant
 - Advancing 3D scene reconstruction, proposed *Blocks2World*, *3DControlNet* using deep learning, and scene segmentation techniques.
 - Integrating generative models like stable diffusion, and 3D aware image editing applications, using mesh and point cloud.
 - Collaborating with the TTIC on intrinsic image decomposition into its albedo and shading components using different techniques.**Teaching Assistant** for CS 225 (Data Structure and Algorithms), CS 128 (Intro to CS II), and CS 124 (Intro to CS).
- HealthAIgnite ([link](#))** Jan 2022 - Present
CEO, Founder and Managing Director
 - Founded and currently manages HealthAIgnite, a leading healthcare AI consulting company focusing computer vision technologies.
 - Established partnerships with key healthcare institutions and MedTech companies, accelerating the adoption of AI solutions.
- DOCOMO Innovations, Inc.** California, USA
Research Intern May 2023 - August 2023
 - Working on the development of a GPT2-based reallabformer model to fill missing data in datasets, improving model prediction.
 - Working on the development of a practical stereo depth system for videos, focusing on improving 3D depth perception.
 - Stable Diffusion based Ad generation, using mask-based inpainting utilizing LaMa with fine-tuned diffusion model on specific data.
- Salesforce** Hyderabad, India
AMTS Software Developer (Artificial Intelligence) July 2021 - August 2022
 - Worked as a software developer in the CnP team, focusing on the development of Salesforce Products and Einstein AI.
 - Developed Text-to-Story and Image-to-Text, and OCR using Machine Learning, NLP, LLMs for Salesforce Einstein AI.
 - Implemented tax schema for EMEA region and performed full-stack development for feature enhancement on the Force.com platform.
 - Automated core patch regression processes and deployed APIs using Mulesoft and Heroku, resulting in significant time saving.
 - Served as a Scrum Master, leading the major release of the FnE product that added numerous new features for customers.**Software Developer Intern, [\[Certificate\]](#)** May 2020 - July 2020
 - Automated the manual process of estimating the time required to complete a Mulesoft project by implementing a machine learning algorithm on Heroku, creating REST API using Django, and developing front-end on the lightning platform using Aura and Apex.
- IMT Atlantique, Rennes, France** Dec 2020 - May 2021
Research Assistant under Dr. Kapil Ahuja and Dr. Yann Busnel
 - Led an advanced research project on clustering soybean genomes, employing a variety of machine learning algorithms to analyze phenotypic data of genotypes efficiently, aimed at enhancing crop yield through strategic crop breeding.
 - Proposed the 'Cube Sampled K-Prototype Clustering', enhancing the accuracy and effectiveness of clustering in genetic data.
- University of Witwatersrand, Johannesburg, South Africa** July 2019 - Dec 2020
Research Assistant under Dr. Jules M. Moualeu and Dr. Abhishek Srivastava,
 - Conducted research on an energy-efficient health monitoring approach with wireless body area networks (WBAN). Proposed an ML innovative approach to energy conservation and detection of alarming health status.
- University of Alberta, Canada** Jan 2019 - April 2020
Research under Dr. Osmar Zaiane and Dr. Abhishek Srivastava
 - Designed an automated surveillance system using ML models that utilize wireless sensor networks for detecting forest fires.
 - Implemented a two-tier anomaly detection algorithm to identify and predict adverse conditions from health parameter readings.

SELECTED PUBLICATIONS

- V. Vavilala, **S. Jain**, R. Vasanth, A. Bhattad, D. Forsyth. *3DControlNet: Bridging 2D Image Editing with 3D Control*. CVPR, 2024. [Under Review]
- V. Vavilala, **S. Jain**, R. Vasanth, A. Bhattad, D. Forsyth. *Blocks2World: Controlling Realistic Scenes with Editable Primitives*. DOI: 10.48550/arXiv.2307.03847. [link]
- **S. Jain**, P. Jain, PK. Upadhyay, JM. Moualeu, A. Srivastava. *An Energy Efficient Fault-Anomaly Detection in Wireless Body Area Networks*. ACM Transactions on Computing for Healthcare, 2022. DOI: 10.1145/3501773. [link]
- P. Jain, **S. Jain**, OR. Zaane, A. Srivastava. *Anomaly Detection in Resource Constrained Environments with Streaming Data*. IEEE Transactions on Emerging Topics in Computational Intelligence, 2021. DOI: 10.1109/TETCI.2021.3070660. [link]
- CK. Maurya, **S. Jain**, V. Thakre. *Large-Scale Contact Tracing, Hotspot Detection, and Safe Route Recommendation*. Springer, 9th International Conference on Big Data Analytics, 2021. DOI: 10.1007/978-3-030-93620-4_13. [link]
- **S. Jain**, AA. Shastri, K. Ahuja, Y. Busnel, NP. Singh. *Cube Sampled K-Prototype Clustering for Featured Data*. IEEE 18th India Council International Conference, 2021. DOI: 10.1109/INDICON52576.2021.9691727. [link]
- **S. Jain**, P. Jain, A. Srivastava. *An Efficient Anomaly Detection Approach using Cube Sampling with Streaming Data*. International Conference on Pattern Recognition and Machine Intelligence, 2021. arXiv:2110.01813. [link]

ACHIEVEMENTS

- Selected as a **Siebel Scholar**, Class of 2024 by Siebel foundation from UIUC.
- Selected as a recipient of the prestigious 2022 **Research Scholar Program by Google**, which is oriented towards AI/ML research.
- Interviewed by **Times of India** news for research on wildfire detection algorithm (2022).
- **Best BTP award** from Computer Science Department among the graduating students (2021).
- Secured **8th** rank in IEEE Programming League hosted by IEEE Computer Society on Codingblocks (2020).
- Secured **1st** rank in Intern ladder among all the interns in Salesforce (2020).
- Qualified for Onsite Round of ACM ICPC 2019 and received honorable mention in ICPC Amritapuri regionals.
- Secured **3rd rank** in Onsite Finals of INCC 2018 hosted by IET DAVV on CodeChef (2018).
- Secured **1st** position among the **top 50** finalists of **DRONA 2018**: A management competition by IIM INDORE (2018).
- Secured **1st** rank in turning cup hosted by **SIES GST** on CodeChef (2018).
- Secured **3rd** rank in Intra IIT Tech Meet Robo Race (2017).
- Secured All India Rank **1st** in IIT JEE Advanced (2017) in Mathematics Section with a score 122/122.
- Secured **1400** rank in IIT JEE Advanced (2017) among a million students.
- Secured **AIR 43** in technothlon hosted by IIT GUWAHATI (2016).
- Secured **State rank 2** and **International rank 26** in International Mathematics Olympiad (2015).
- UCMAS (Mental Math and Abacus) degree scholar, and secured 9th rank in UCMAS global competition (2013).

VOLUNTEERING AND LEADERSHIP EXPERIENCE

- Demonstrated rapid leadership ascent in the *Indian Graduate Students Association* at **UIUC**, coordinating the prominent 'Holi' festival for over a thousand attendees, showcasing my skills in team management, community building, and cultural event organization.
- As CEO, Founder, and Managing Director of **HealthAIgnite** since January 2022, I have spearheaded the company's strategic growth, expanded the client base, and integrated advanced computer vision technologies into our healthcare AI solutions.
- Led the resource development initiative for the **HOPE** NGO in India, connecting with NGOs and visits to orphanages to ensure the well-being of underprivileged children. Awarded with **MP Young Philanthropist Award** for my efforts and contributions.
- Took on the leadership role as the Captain of the University Debate Team, spearheading the team to achieve significant milestones, including **Regional** and **National Victories**.
- Acted as the **Lead** for IIT Indore's annual fest "**Fluxus**" (2021) during the COVID-19 pandemic. Led and coordinated a team of 20, successfully executing the event and showcasing strong leadership and organizational skills.
- **Chaired the student council** in my final year of undergrad, overseeing student welfare initiatives, event organization, and liaising between students and university administration during my undergrad at IIT Indore.

LANGUAGE PROFICIENCY

• **English** - Fluent

• **French** - Intermediate

• **Hindi** -Native