

## ABHILASHA LODHA

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I am writing to express my strong interest in this opportunity at your organization. As a dedicated and passionate student pursuing an MS in Computer Science with a focus on Data Science and AI at the **University of Massachusetts Amherst**, I am eager to contribute my technical expertise and research abilities to build efficient AI models for high-tech industries.

During my academic journey and work experience at **Accenture** and **EXL**, I have successfully spearheaded various AI projects for clients in sectors such as healthcare, geomatics, finance, and retail. I take pride in witnessing how AI improves people's lives, and I am committed to developing ethical AI systems to ensure the well-being and advancement of humanity.

I am proud to have published two papers at the **CCVPR'21** conference, which were accepted and published by **Springer**. One of these papers involved segmenting non-restricted areas from empty floor spaces and generating recommendations for balcony garden design systems using computer vision techniques. The second paper presented an end-to-end solution for borderless table detection and data extraction from financial documents using a custom-trained deep-learning model.

My enthusiasm for AI extends beyond my professional pursuits, as demonstrated by my active participation in intellectual events and competitions. In **Accenture's Global AI Hackathon**, I presented an IVR-enabled chatbot that assists individuals in reporting civil complaints to the appropriate government authorities, addressing issues such as potholes, garbage accumulation, and power outages. I also secured the first position in **AI.NXT**, a national-level AI competition at Accenture, by developing a geospatial AI solution that derives insights on urbanization growth and changes in natural resources using satellite images and computer vision techniques. These accomplishments were recognized by the **Accenture Leadership Team**.

Aside from my research and professional endeavors, I am deeply committed to teaching and empowering underserved communities. I have taken several sessions on Python and Adobe Photoshop for High School students under my tech start-up **'Design Dockyard'** wherein I provided design services besides developing web applications. By serving 50+ international clients, I gained real-time exposure in enhancing my collaborative engagements besides imparting valuable technical skills to deserving and needy students.

Additionally, in my recent role as a Graduate Research Assistant at **Microsoft MAIDAP**, I made significant contributions to a research project centered around NLP and Transfer Learning. I have submitted this work to the **EMNLP'23** conference, and it is currently under review. Through the development of parameter-efficient fine-tuning strategies for language encoders, incorporating Fisher and Sparsity metrics, I successfully identified the most optimal layers for fine-tuning. The outcome of this project was the demonstration of a refined fine-tuning approach, which was validated through comprehensive experiments. This work holds considerable promise as it enhances the efficiency and effectiveness of language encoders, ultimately advancing the capabilities of NLP and Transfer Learning applications.

With this opportunity, I would get the chance to work on technical projects with industry mentors. Their mentorship and feedback would enable me to bridge the gap between what I am learning in school and how I'll apply that in the real world using state-of-the-art methods, providing a great learning experience for my career growth. This, in turn, would empower me to leverage AI for the greater good and utilize diverse ways of thinking for the betterment of the world.

Thank you for your time and consideration.

Best regards,

Abhilasha Lodha