Shreya Kashi

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Education

Oregon State University	MS Computer Science	GPA 3.8/4	*2022-2024 (Expected)*
Manipal Institute of Technology	BS Electronics and Communication	CGPA 8.4/10	*2016-2020*

Work Experience

Oregon State University | Graduate research assistant   *2022-2024*

- Worked on DARPA's Machine Common Sense initiative, with a focus on detecting passive violations of expectation in simulated video input using **computer vision** and **machine learning** techniques. Was among the top performing teams in the 2023 evaluation.

Deloitte | Analyst   *2020-2022*

- Designed and deployed **web applications** for Exelon, enabling customers to manage their energy subscriptions with ease resulting in significant reduction in administrative costs.
- Led a team of 3 and collaborated with different functional units for smooth and timely delivery of project goals related to the development of the Municipal Utility Tax Portal.

Sleepiz | Signal processing intern   *May-August 2020*

- Researched and implemented algorithms for contact-less breathing-rate detection for the diagnosis of sleep-related disorders. Used **Signal Processing** techniques in **Python** to compare different algorithms for the same and illustrated the most accurate one.
- Contributed towards a signal quality module using **linear regression** to estimate the quality of the given signal with an accuracy of 94%. This module was integrated into the 'Sleepiz One' device, allowing medical professionals to discern signal reliability amidst noise.

Teach Code for Good (Volunteering) | President   *2018-2019*

- Managed a team of 15+ volunteers in delivering computer and programming education to underprivileged children, overseeing the planning, design, and execution of the curriculum and teaching sessions.

Projects

Improved multi-view 3D pose estimation and forecasting | Computer Vision II (AI 637)

- Working on improving TEMPO's pose estimation accuracy using a stacked hourglass network to provide global pose context.

Detecting center pivot irrigation systems (CPIS) in satellite images | AI Capstone

- Developed an instance segmentation model utilizing U-net and watershed algorithm to accurately detect areas irrigated by CPIS. Constructed a comprehensive CPIS dataset using QGIS, facilitating its use for future remote sensing research.

Health Technology Innovations (HTI) | AI Capstone

- Worked on automating the 2D to 3D pipeline using **deep learning** and **computer vision** techniques for 3D protein structure reconstruction and pose estimation taken from cryo electron microscopy.

Indian Institute of Science | Research Intern

- Improved the accuracy of the previous model for water body detection in satellite images by 15% by employing super-resolution techniques to improve image resolution. Fine-tuned **Mask RCNN** model to detect water bodies in the processed images. Key techniques used are **image segmentation** and **image registration**.

Phone-a-friend | Human Computer Interaction (CS565)

- Researched and designed a mental wellness application in **Figma** taking into consideration design principles and usability objectives. Assessed the application's performance through usability testing and cognitive walkthrough.

Key-value pair extraction from scanned documents | DL/NLP (AI539)

- Integrated **FastRCNN** with **BERT** to extract key-value pairs from documents (NER) for a multimodal approach which uses layout information with textual associations.

Skills/Relevant courses

- **Programming languages:** Python, C/C++, Javascript, SQL
- **Frameworks and tools:** PyTorch, Tensorflow, Keras, Scikit-learn, Matplotlib, Angular, Git, Docker, Agile (Scrum), Linux, Figma, OpenCV, Numpy, Pandas/Geopandas, OpenGL, OpenMP
- **Courses/Areas of expertise:** Data Structures, Algorithms, ML, Deep Learning, Reinforcement Learning, Natural Language Processing (LLM), Generative AI (GAN, VAE, Diffusion, NeRF), Signal Processing, Numerical Optimization, Parallel Programming (GPU, CUDA), Computer Graphics, Computer Vision, Linear Algebra

Awards

- Applause Award - Deloitte: "For highlighting risks in a preemptive manner helping the team mitigate a lot of issues and showcasing exceptional communication & collaborative skills"
- Applause Award - Deloitte: "For for delivering high-quality code and unit test coverage"
- EU CX Hackathon 2nd place - Exelon: Developed website search functionality prototype using Google Analytics data