

PROFILE

AI and Visualization Researcher focusing on deep learning for medicine, computer vision, and visual data analysis.

PUBLICATIONS

- **OMAMA-DB: A Multiview 2D Mammography Dataset with DeepSight Cancer Annotations** [Submitted to VIZBI 2026]
- **OMAMA-DB: The Oregon–Massachusetts Mammography Database** [Journal of Medical Imaging 2026 – Link]
- **RM-DenseNet: An Enhanced DenseNet Framework with Residual Model for Breast Cancer Classification Using Mammographic Images** [InCACCT 2024 – Link]
- **Diagnosis and Classification of Breast Cancer using Data Visualization and Deep Learning** [ICRISST 2024 – Link]

EXPERIENCE

- **Teaching Assistant – CS460, CS617, CS666**, University of Massachusetts Boston [Lectures] Sep 2025 – Present
 - Led course staff and coordinated grading across three advanced computer science courses.
 - Delivered lectures to undergraduate, graduate, and Ph.D. students.
 - Taught computer graphics, data visualization, and biomedical signal and image processing concepts.
 - Mentored students on research-driven and applied technical projects.
- **IMPACT Trainer**, Venture Development Center, University of Massachusetts Boston [Lectures] Jan 2026 – Present
 - Led hands-on technical workshops teaching Ubuntu bootable USB creation and Linux live environments.
 - Guided students in Miniconda environment setup and local Jupyter workflow configuration.
 - Strengthened students' system-level understanding beyond cloud-only workflows.
- **Co-Founder & AIML Researcher**, The AI Fantastic Team [Community Spotlight] May 2025 – Present
 - Co-led student research initiatives in AI and machine learning, contributing to experimental design and execution.
 - Collaborated with peers from CS, business, and marketing to explore AI's social and technical impact.
 - Helped grow the team's digital presence and community outreach through content sharing and events.
- **Ph.D. Researcher – ML & Visualization**, Machine Psychology@Umass Boston [Lab] [GitHub] Jan 2025 – Present
 - Contributed to OMAMA-DB, a 231,080-image (2D/3D) medical imaging dataset.
 - Evaluated DeepSight via image-level vs. study-level prediction analysis across the full dataset.
 - Built automated inference pipelines to standardize scoring and improve reproducibility.
 - Developed CNN and U-Net models for multi-view DICOM segmentation and classification.
- **Software Engineering Intern**, VIVO Services Jun 2023 – Jun 2024
 - Improved user experience by enhancing the Geo Attendance UI using HTML/CSS, resulting in smoother daily usage.
 - Contributed to key front-end modules across multiple projects, ensuring timely and consistent feature delivery.
 - Maintained a strong professional presence, earning team trust through reliable and high-quality work output.
- **AI/ML Internships (Remote)** May 2022 – Jan 2024
 - Built ML/DL models across roles at SYNC Interns, CodersCave, CodeClause, Bharat Intern, and Eduversity.
 - Projects included gender/age detection, COVID diagnosis, Titanic survival prediction, and NLP pipelines.
 - Gained expertise in Python, PyTorch, TensorFlow, data preprocessing, and evaluation metrics.

ACADEMIC PROJECTS

- **VERITAS – AI Image Forensics System** [GitHub] [Live Demo] Jan 2026 – Feb 2026
 - Developed a dual-model AI system for real vs. AI-generated image detection.
 - Trained a CNN on 60,000 CIFAKE images, achieving 93% validation accuracy.
 - Implemented an EfficientNetB0 transfer learning model for high-resolution detection.
 - Deployed a live Gradio application on Hugging Face Spaces for real-time inference.
- **Autofolio (AI Portfolio Generator)** [GitHub] [Slides] Oct 2025 – Nov 2025
 - Built an AI-powered portfolio generator using React, Node.js, and Google Gemini AI.

- Generates responsive portfolio websites with HTML, CSS, JS, animations, and modern UI.
- Developed REST APIs for spec generation, asset creation, live preview, and ZIP export.
- **Image Colorization using Conditional GANs** [\[GitHub\]](#) [\[Slides\]](#) [\[Paper\]](#) Feb 2025 – May 2025
 - Restored grayscale images by developing a GAN-based pipeline using ResNet18, Dynamic UNet, and PatchGAN.
 - Delivered production-ready documentation, visuals, and a web demo for user testing.
 - Demonstrated effectiveness of generative modeling for creative restoration tasks in image processing.
- **Knowledge Distillation** [\[GitHub\]](#) [\[Website\]](#) [\[Slides\]](#) [\[Poster\]](#) Apr 2025 – May 2025
 - Achieved over 60% accuracy using compact CNNs via knowledge distillation.
 - Conducted 13 controlled experiments using Google, Bing, and SD data to test generalizability.
 - Published findings with supporting UI, poster, and code repository for open access.
- **AI Model to Predict Alzheimer's Diagnosis** [\[GitHub\]](#) [\[Report\]](#) Aug 2024 – Dec 2024
 - Achieved 95% test accuracy by training neural networks on Kaggle medical data using TensorFlow and PyTorch.
 - Preprocessed, encoded, and normalized input features and labels for model stability.
 - Demonstrated the effectiveness of ML for early-stage Alzheimer's screening in real-world settings.

EDUCATION

University of Massachusetts Boston Sep 2026 – Expected May 2031
 Doctor of Philosophy (Ph.D.) in Computer Science (Machine Learning & Visualization)

University of Massachusetts Boston Aug 2024 – May 2026
 M.S. in Computer Science

SRM Institute of Science and Technology Sep 2020 – Jun 2024
 B.Tech in Computer Science and Engineering (AI/ML Specialization)

CERTIFICATIONS

- **AWS Academy** – Cloud Architecting, Cloud Foundations, Cloud Security Foundations (Jun–Nov 2023)
- **Coursera** – Advanced Learning Algorithms, Python for Data Science, Supervised ML: Regression and Classification (Mar 2023)
- **MathWorks** – Deep Learning, Image Processing, MATLAB Onramps (Dec 2022)
- **Skill-Lync** – Microsoft Azure AI Fundamentals, Web Development with ReactJS (Jan–Mar 2023)
- **University of Washington** – Machine Learning Foundations: A Case Study Approach (May 2023)
- **IBM** – Introduction to DevOps (Apr 2023)
- **Great Learning** – Computer Vision Essentials, MySQL Basics (Mar–Apr 2022)
- **Aspiring Minds** – Data Processing Specialist (Mar 2023)
- **HackerRank** – Python (Basic), SQL (Intermediate) (Apr 2023)
- **Internshala** – Web Development Internship (Jun 2022)

SKILLS

Languages & Web: Python, C, C++, Java, JavaScript, HTML, CSS, PHP, SQL, MySQL, Flask

ML/AI: TensorFlow, PyTorch, Scikit-learn, Transformers (Hugging Face), YOLO, spaCy, OpenAI Gym, Stable Baselines3

Libraries: Pandas, NumPy, Matplotlib, Seaborn, TensorFlow Object Detection API

Data & Visualization: Chart.js, Tableau, Excel, Jupyter, Google Colab

Tools: Git, GitHub, PyCharm, Visual Studio, IntelliJ IDEA, Eclipse, Teams

Deployment: TensorFlow Serving, Flask/FastAPI for ML APIs