

PRASHANTH REDDY PAVUDALA

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OBJECTIVE

Computer Science Graduate Student with strong academic background, proficient in Object-Oriented Programming, Data Structures, and Algorithms, and good communication skills, seeking opportunities to leverage my skills in a challenging environment.

EDUCATION

Master of Science - Computer Science

Jan 2025 - Dec 2026

University of Maryland, Baltimore County, MD

Coursework: Advanced Computer Architecture, Introduction to Machine Learning, Introduction to Data Science

Bachelor of Technology in Electronics and Communication Engineering

Jul 2018 - May 2022

National Institute of Technology, (NIT) Silchar, India

GPA 8.11/10

TECHNICAL SKILLS

Programming Languages: Java, JavaScript, Python.

Frameworks and Tools: Spring Boot, Spring MVC, Spring Batch, Spring Security, Hibernate, React JS, MySQL.

PROFESSIONAL EXPERIENCE

Software Engineer, [Magicbricks Realty Services Limited](#), India

Jul 2022 - Jul 2024

- Created the CP Payout Module using ReactJS, Spring Boot and MySQL, resulting in enhanced payment automation via Razorpay and contributing to a 40% increase in CP lead conversion.
- Developed a DataSenderBatch to seamlessly push the leads to the Dialing Team using Spring Batch and Apache Kafka.
- Implemented promotional, transactional, and event emails, as well as WhatsApp messages using Apache Kafka ensuring high reliability and real-time communication with customers.

Research Intern, [NIT Silchar](#), India

May 2021 - Jul 2021

- Utilized Python libraries including NumPy, Pandas, Matplotlib, Seaborn, and Keras for data preprocessing, visualization, and building machine learning pipelines across regression, classification, and deep learning tasks.
- Implemented and compared Linear Regression and LSTM models for stock price prediction, analyzing performance metrics to evaluate the effectiveness of traditional vs. deep learning approaches.

ACADEMIC PROJECTS

Post-Disaster Building Damage Assessment

May 2025

- Developed a Siamese U-Net model for post-disaster building damage assessment using xView2 satellite imagery, performing semantic segmentation on pre/post-disaster image pairs to detect and classify structural damage with 85.9% accuracy.
- Implemented using Python with libraries including PyTorch, GeoPandas, Rasterio, OpenCV, Albumentations, and Matplotlib, incorporating custom tiling, mask generation from GeoJSON annotations, and loss-weighted training to handle class-imbalanced multi-class damage classification.

Breast Tumor Progression Dynamics

May 2025

- Developed a generative deep learning pipeline using Denoising Diffusion Probabilistic Models (DDPMs) to simulate breast tumor progression over time using longitudinal MRI data from the I-SPY1 dataset, enabling predictive modeling for treatment planning.
- Implemented using Python, PyTorch, NumPy, Scikit-learn, and PyTorch Lightning, featuring a UNet-based architecture with mixed-precision training, cosine annealing learning rate scheduling, and early stopping to optimize denoising performance, achieving a PSNR of 33.45 dB and SSIM of 0.91.