Prashanth Reddy Pavudala

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OBJECTIVE

Computer Science graduate student with strong fundamentals in data structures, algorithms, object-oriented programming, and distributed systems. Seeking a Software Engineering Internship to apply full-stack development skills in building impactful, scalable systems through the complete software development lifecycle.

EDUCATION

Master of Science - Computer Science   **Jan 2025 - Dec 2026**
University of Maryland, Baltimore County, MD

Bachelor of Technology - Electronics and Communication Engineering   **Jul 2018 - May 2022**
National Institute of Technology, (NIT) Silchar, India

TECHNICAL SKILLS

Programming Languages: Java, JavaScript, Python, C++, HTML5, CSS3
Frameworks and Tools: Spring Boot, Spring MVC, Spring Security, Hibernate, React JS, Redux, MySQL, MongoDB, GitLab CI/CD

WORK 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.
- Worked in an Agile environment, collaborating closely with cross-functional teams including Product, QA, Business, and built the DataSenderBatch module using Spring Batch and Apache Kafka to seamlessly push leads to the Dialing Team.
- Implemented promotional, transactional, and event emails, as well as WhatsApp messages using Apache Kafka ensuring high reliability and real-time communication with customers.
- Developed the lead registration module, bank recommendation page, and robust REST APIs using Spring Boot to populate banks matching customer details based on loan amount and EMI significantly improving the user experience and more accurate loan processing.

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 [Github]   **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 [Github]   **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.