Prashanth Reddy Pavudala

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OBJECTIVE

Master's student in Computer Science with full-stack development and ML/AI research experience. Seeking a Software Development Engineer Internship at Esri to build scalable applications and contribute to geospatial and analytics software (ArcGIS).

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: Java, Python, C++, C, JavaScript, HTML, CSS
Frameworks: Spring Boot, Spring MVC, Spring Batch, Spring Security, ReactJS, Redux, Hibernate, Pytorch, Keras
Databases: MySQL, MongoDB, Neo4j, Redis
Tools & Platforms: GitLab CI/CD, Apache Kafka, Docker, Kubernetes, Jenkins, Linux/Unix

WORK EXPERIENCE

Software Engineer, Magicbricks Realty Services Limited, India **Jul 2022 - Jul 2024**

- **Built CP Payout Module** (ReactJS + Spring Boot + MySQL) with modular design patterns (MVC, Repository, Service layers), automating payment workflows via Razorpay and increasing CP lead conversion by **40%**.
- **Developed DataSenderBatch pipeline** (Spring Batch + Kafka) to stream millions of leads in real-time to the Dialing Team, improving throughput by **30%**.
- **Designed REST APIs** for lead registration & loan recommendations, applying **optimized data structures, caching with Redis**, and **scalable patterns** for faster query responses and enhanced user experience.
- **Worked in Agile sprints** with cross-functional teams; implemented **Kafka-based pub/sub messaging** to ensure reliable communication across multiple microservices (emails, WhatsApp).

Research Intern, NIT Silchar, India **May 2021 - Jul 2021**

- Implemented and benchmarked Linear Regression vs. LSTM models for stock prediction, applying time-series algorithms to evaluate forecasting accuracy.
- Preprocessed & modeled large datasets using Python (NumPy, Pandas, Seaborn, Keras), optimizing deep learning pipelines for faster convergence.

ACADEMIC PROJECTS

Post-Disaster Building Damage Assessment [Github] **May 2025**

- Developed scalable Siamese U-Net pipeline (PyTorch) for semantic segmentation of 20k+ satellite images (xView2 dataset), achieving **85.9% accuracy** in multi-class damage classification.
- Implemented automated tiling, GeoJSON-based mask generation, and weighted loss functions to address severe class imbalance.

Breast Tumor Progression Dynamics [Github] **May 2025**

- Built generative diffusion pipeline (DDPMs, PyTorch Lightning) to simulate MRI-based tumor progression, enabling predictive treatment planning.
- Optimized U-Net architecture with cosine annealing LR scheduling & mixed-precision training, improving denoising metrics (PSNR **33.45 dB**, SSIM **0.91**).