KUMARA SWAMY PADARI

Backend Software Engineer specializing in AI systems and LLM applications

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EDUCATION

Northeastern University, Khoury College of Computer Sciences, Portland, ME 2025 – Dec 2026
Master of Science in Computer Science GPA: 3.72/4

Sree Vidyanikethan Engineering College, Tirupati, India 2021 – 2024
Bachelor of Technology in Computer Science and Engineering GPA: 8.60/10

SKILLS

Languages: Python, JavaScript, SQL
Backend & Databases: FastAPI, Django, Django REST Framework, REST APIs, PostgreSQL, MySQL, MongoDB
AI & LLMS: OpenAI API, Gemini API, LangChain, RAG, Vector Databases(ChromaDB), Semantic Search
Data & ML: Pandas, NumPy, scikit-learn, Matplotlib, geopandas, rasterio
Frontend, Cloud & Tools: React.js, React Flow, HTML, CSS, AWS (S3), Docker, CI/CD, Git, Postman

PROFESSIONAL EXPERIENCE

Graduate Teaching Assistant – CS5800 Sep 2025 – Apr 2026
Khoury College of Computer Sciences – Northeastern University

- Guided 60+ graduate students across 3 sections through office hours and review sessions on core algorithms and data structures.
- Graded proofs and algorithm design problems, giving concise feedback that helped students correct reasoning errors while upholding academic integrity.

Software Engineer | Northeastern University – UniteGPS (Client Project) Jan 2026 – May 2026
Parent Invite Automation System | Django, REST, MySQL, Celery, Redis, Brevo API

- Built a transactional email service in Python integrating Brevo's REST API to automate parent-invitation delivery for a SaaS platform serving 50–70 school districts.
- Implemented per-district domain white-labeling via Brevo's API, configuring SPF and DKIM DNS records so schools could send invitations from their own authenticated email domains.
- Built and tested 6 REST API endpoints for email delivery, logging, and analytics using Celery, Redis, and MySQL and validated 150 test invitations at 100% delivery accuracy with open and bounce tracking.

Data Analyst | Northeastern University – Aperture Space, Inc. (Client Project) Jan 2026 – May 2026
Soil Moisture Analysis **|** *Python, rasterio, pystac-client, Pandas, NumPy, Matplotlib, Plotly, AWS S3*

- Built a scalable geospatial processing pipeline streaming Landsat 8/9 imagery from AWS S3 via the STAC API and rasterio windowed reads, computing NDMI over a 3×3 pixel window per station without downloading full scenes.
- Parsed two years of hourly Oklahoma Mesonet data across 120 stations into a unified dataset, applying cloud masking, weekly aggregation, and a Makefile-automated pipeline with conditional data extraction.
- Developed an interactive Plotly Dash dashboard validating NDMI against ground truth soil moisture via expanding Pearson correlation (r, p-values), surfacing weak seasonal correlation.

PROJECTS

AI Resume ATS Scanner | *Python, FastAPI, Gemini, OpenAI, PyMuPDF, PostgreSQL* *Github | Live Demo*
An LLM-powered tool that scores a resume against job descriptions and tracks results over time.

- Built a resume-evaluation pipeline using PyMuPDF to parse resume PDFs and Gemini/OpenAI to analyze them against job descriptions, generating ATS compatibility scores out of 100.
- Developed FastAPI REST endpoints for document extraction, bulk uploads, and scoring, with results and history stored in PostgreSQL.

No Code AI Workflow – Full Stack | *React.js, React Flow, FastAPI, OpenAI, Gemini, ChromaDB, Axios, PostgreSQL* *Github | Live Demo*

A visual platform where users build LLM pipelines with drag-and-drop nodes.

- Built a React Flow drag-and-drop interface for composing LLM pipelines from connectable nodes, with a FastAPI backend handling document ingestion and orchestration.
- Implemented ChromaDB vector search for semantic retrieval and multi-provider inference across OpenAI and Gemini, with user-supplied API keys.
- Stored chat history in PostgreSQL, with dynamic switching between OpenAI and Gemini models.

RESEARCH

5G and IoT Integration: Assessing the Technological and Security Impacts | Remote Dec 2023

Presented at Machine Intelligence Research Labs (MIR Labs), 19th International Conference on Information Assurance and Security (IAS'2023)

- Co-authored a peer-reviewed paper on security vulnerabilities, mitigation strategies, and performance trade-offs in 5G-enabled IoT networks.

CLUBS & ORGANIZATIONS

Namaste | Roux Institute, Northeastern University Jan 2025 – Present

- Organize cultural events promoting Indian heritage, managing logistics and operations for a student community.