

Ibrahim Alam

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Education

Louisiana State University (LSU), Baton Rouge, Louisiana

Expected: May 2026

BS, Computer Science - Software Engineering | Minor: Mathematics | *Roger Hadfield Ogden Honors College*

GPA: 4.264

Awards and Honors: LSU Stamps Scholarship Recipient, Taylor Scholar (TOPS) Recipient, LSU President's Future Leaders Award Recipient, LSU Distinguished Researcher Candidate (2026), Tau Beta Pi Engineering Honors Society Member

Research Experience

[Undergraduate Researcher](#) | LSU Division of Computer Science and Engineering, Louisiana State University, Baton Rouge | Dr. James Ghawaly | [AISX Lab](#) | (September 2024 - present) | [Project - PECAN](#) (Formerly BetterGuessLang)

- Fine-tuning encoder-only transformer models (e.g., CodeBERT) for programming-language identification across 300+ languages; achieved 99.5% accuracy (significantly above GuessLang/heuristic baselines)
- Built scalable training/evaluation pipelines using 42M+ labeled examples, distributed training, and hyperparameter tuning
- Co-authoring manuscript in preparation for submission to an A* machine learning venue (e.g., ICML)

Undergraduate Researcher | LSU Division of Computer Science and Engineering, Louisiana State University, Baton Rouge | Dr. David Shepherd | (January 2024 - May 2024) | [Project - Quest Exercise Application](#)

- Built VR productivity + exercise prototype for Meta Quest 3 (Unity + C#) for an ongoing HCI research project
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Technical Experience

[Machine Learning Software Developer Intern](#) | LSU Office of Academic Affairs | (May 2025 - present) | Project – MikeGPT

- Built RAG pipelines over 38,000+ LSU documents, improving accuracy and robustness for 30,000+ users
- Developed backend using Django, PostgreSQL, Redis, Azure Cloud (Key Vault, Blob Storage)
- Extended MikeGPT with a Workday transition agent using semantic vector search (95% hit rate)
- Developed a custom agent engine and incorporated MCP (Model Context Protocol) to support modular tools

[Software Developer](#) | Tri-Core Technologies LLC, Baton Rouge | (May 2024 – present) | Projects Below

- Improved .NET MVC systems for the Louisiana Dept. of Insurance via 10+ fixes/features
 - Delivered client-requested updates and reduced issue resolution time
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Teaching Experience

Teaching Assistant | CSC 4700 - AI and LLM Development | LSU Division of Computer Science and Engineering, Louisiana State University, Baton Rouge | Fall 2025

- Mentored four student teams building AI-driven applications with industry sponsors (e.g., BASF, Entergy)
 - Guided students in RAG design, retrieval evaluation, and ML system architecture
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Projects

[Nexus Louisiana DevDays ClimateTech Challenge](#) | CO₂ Tracking Platform | Scrum Master & Lead Developer | React/Vite, Supabase, Hugging Face | Fall 2025 – Present

- Leading development of an AI-integrated CO₂ reporting platform in a challenge for Louisiana's \$23B CCUS initiative
- Built emissions retrieval systems and domain-specific RAG features

[Regulatory Management System \(RMS\)](#) and [Employee Portal](#) Maintenance and Development | C#, .NET MVC, SQL, JavaScript, Entity Framework, HTML, Microsoft SSMS | Summer 2024 – Present

- Upgraded RMS, Employee Portal, and Correspondence systems for LDI to improve efficiency and access
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Leadership/Extracurriculars

Scrum Master — Nexus ClimateTech Challenge (Fall 2025)

LSU Distinguished Communicator Candidate — CxC (2026 cohort)

Webmaster — [LSU Water Brigades](#) (2023–present)

Technical Skills

PL and Full-Stack: Python, C#, Java, C++, JS, SQL, Django, React, .NET MVC, PostgreSQL, Azure Cloud, Git, Redis, Supabase

ML / NLP: PyTorch, HuggingFace, RAG systems, transformer fine-tuning, W&B, Evaluation Pipelines