Adhitya Thirumala

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EDUCATION

University of Illinois Urbana-Champaign — Expected Graduation: May 2027
Major: Computer Science + Linguistics — Minor: Mathematics — *GPA: 3.82*

EXPERIENCE

Digital Main | *Machine Learning Intern* — May 2025 — August 2025
- Built an asynchronous agentic retrieval-augmented-generation (RAG) system in Python, orchestrating query decomposition and research across web and internal client data (Slack messages, emails, etc.) using LangGraph
- Utilized FastAPI to create customer-facing production API to stream research process to web client using Server Sent Events (SSE)
- Implemented automated agentic source validation, while integrating images and generating charts or tables into final artifact

Assocation for Computing Machinery at Illinois | *Treasurer* — March 2025 — Present
- Managed over **$350k** of organizational funds for largest CS student organization at Illinois with **1000+** total members
- Migrated accounting and credit card platforms from BILL.com to Ramp to obtain credit limit increase of **2300%** and to streamline reimbursements, onboarding, and reporting workflows
- Served as liaison between organization and Siebel School of Computer Science staff to coordinate usage of department-provisioned funds for ACM events such as biannual open house (**500+ attendees**) and various social events

Freelance | *Private Policy Debate Coach* — August 2024 — Present
- Mentored **9** students from under-resourced institutions nationwide, identified through extensive high school competitive debate networking, providing strategic coaching and performance enhancement
- Considered past student performances at over **100+** rounds to use data-driven strategies to increase student winrate by **120%**
- Coached student to tournament victory at University of Michigan Round Robin Invitational, successfully competing solo against established partnerships in premier national circuit event

SELECTED PUBLICATIONS

Clickbait Classification and Spoiling Using Natural Language Processing (arXiv) — Oct 2022 — May 2023
- Trained transformers-based models on shared task dataset for clickbait detection
- Performed comparative analysis between fine-tuned SLM BERT-based models and Large Language Models on clickbait spoiling task
- Utilized Weights and Biases hyperparameter tuning to achieve ∼**80%** accuracy on shared task
- Results accepted by *The 17th International Workshop on Semantic Evaluation*: Toronto, Canada 2023

Extractive Question Answering(QA) on Queries in Hindi and Tamil (arXiv) — Oct 2021 — May 2022
- Trained NLP models to perform extractive QA improving performance by **20%** over baseline due to modified RoBERTa tokenizer
- Utilized crosslingual dataset provided by competing in online competition hosted by Google
- Received 26th Annual Carnegie Science Award given to **12** top scientists, entrepreneurs, innovators and educators across the city of Pittsburgh for submitted research

PROJECTS

LLM Evaluation Framework for Competitive Pokémon | *Developer* — September 2025 — Current
- Built Model Context Protocol (MCP) server using Typescript SDK to expose tools and resources for LLMs to play Pokémon
- Created evaluation framework to rank LLMs with ELO system across many battles
- Integrated MCP server with existing battle platform and data provider by developing API parsing library for server communication

matched.lol | *Fullstack Developer* — September 2024 — December 2024
- Developed a Java Spring Boot REST API with PostgreSQL database for a platform to pair League of Legends players, implementing Discord OAuth2 authentication and preference-based matching algorithms
- Built comprehensive database layer with complex SQL queries for user filtering and relationship management using serverless PostgreSQL platform (Neon)
- Created landing page with Next.js and Tailwind CSS to aggregate information of **40+** interested users

SKILLS

Languages: C++, Rust, C, Python, Java, HTML, Bash, LaTeX, SQL, Go, Lua, Javascript, Typescript, CSS, Verilog, MIPS Assembly
Tools: Linux, Git, Vim, Huggingface, Maven, Gradle, SQLite, Docker, PostgreSQL, Vercel, AWS, Oracle Cloud, Google Cloud Platform, Cloudflare (Domain Management), Github Actions CI/CD
Libraries: pandas, NumPy, Matplotlib, Tensorflow, pyTorch, Sci-Kit Learn, Swing (Java), Spring (Java), Next.JS, React.JS, Flask, LangChain, LangGraph, FastAPI

RELEVANT COURSEWORK

Computer Science: Algorithms and Models of Computation, Data Structures in C++, Computer Architecture, Computational Linguistics
Mathematics and Statistics: Honors Abstract Linear Algebra, Statistics and Probability I, Introduction to Higher Level Math, Multivariable Calculus, Discrete Structures