

# Adhitya Thirumala

[adhi-thirumala](#) [adhitya-thirumala](#) [me@adhithirumala.com](mailto:me@adhithirumala.com) [adhithirumala.com](#) [0009-0003-6634-7066](#)

## EDUCATION

### University of Illinois Urbana-Champaign

Major: Computer Science + Linguistics — Minor: Mathematics

Expected Graduation: May 2027

GPA: 3.82/4.0

## 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

### Association 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

### Relevant XKCD Discord Bot | Developer

November 2025 — Current

- Built Discord bot in Rust to understand conversational humor and respond to conversations with relevant comics and web-scrapers to pull comic metadata and explanations
- Used Turso and libSQL to store comic metadata and embeddings of explanations for RAG pipeline
- Integrated OpenAI LLM to generate queries for vector database and explanations for output
- Containerized application using Docker and deployed on Oracle Cloud Infrastructure (OCI) VPS

### 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
- Created landing page with Next.js and Tailwind CSS to aggregate information of **40+** interested users

## AWARDS AND COMPETITIONS

### SIGPwny FallCTF: 6th Place (Advanced Track) in cybersecurity competition across **100+** teams from UIUC

September 2025

## SKILLS

**Languages:** C++, Rust, C, Python, Java, HTML, Bash, L<sup>A</sup>T<sub>E</sub>X, 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, Ghidra, PyLint, Ruff, Ty, Black

**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