LIE ADITYA BRYAN

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EDUCATION

TECHNICAL UNIVERSITY OF MUNICH — Munich, Germany
Bachelor of Science in Computer Science — Oct 2024 - Present
Current GPA : 1.9 (German system)
Relevant Coursework:

- Introduction to Software Engineering (Grade: 1.0)
- Fundamentals of Algorithms and Data Structures (Grade: 1.0)
- Fundamentals of Databases (Grade: 1.4)

HOCHSCHULE KAISERSLAUTERN - STUDIENKOLLEG — Kaiserslautern, Germany
T-Course (German, Mathematics, Physics, Computer Science) — Mar 2023 - Jul 2023
GPA : 1.3 (German system)

PROJECTS

SERVERLESS PDF Q&A SYSTEM WITH RAG

Python | LangChain | Google Gemini API | FastAPI | TypeScript | Next.js |Tailwind CSS | AWS (Lambda, CDK, DynamoDB, SSM) | Docker | Github Actions

GitHub: github.com/lieaditya/pdf-rag-llm | Demo: pdf-rag-llm.vercel.app

- Designed an asynchronous, serverless API for PDF Q&A System using FastAPI and AWS Lambda, with Docker-containerized functions for consistent deployment across environments
- Implemented a Retrieval-Augmented Generation (RAG) pipeline using LangChain with Google Gemini as the LLM for the generative responses and ChromaDB as the vector store for efficient similarity search
- Engineered infrastructure-as-code solution using AWS CDK with DynamoDB for query persistence and SSM for secrets management
- Developed a responsive Next.js UI (TypeScript/Tailwind) deployed on Vercel, enabling intuitive user interactions with the RAG system
- Automated the full CI/CD lifecycle including automated testing and Lambda deployments through Github Actions workflows

GIT INTERNALS REIMPLEMENTATION

C++ | CMake | OpenSSL | zlib

GitHub: github.com/lieaditya/git-cpp

- Developed a subset of Git's core functionality (init, hash-object, cat-file, ls-tree, write-tree) from scratch in C++
- Implemented content-addressable storage using OpenSSL's SHA-1 for object IDs and zlib compression for blobs/trees, mirroring Git's space-efficient architecture

ACHIEVEMENTS

Winner | Information Systems Airlangga Olympiad — Oct 2021
Airlangga University

Gold Medal & Special Award | World Youth Invention and Innovation Award — Aug 2021
Indonesian Young Scientist Association (International, 33 countries)

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, Python, C++, C Java, HTML, CSS
Frameworks: React, Node.js, Express.js, Next.js, Tailwind CSS, FastAPI
Databases: MongoDB, SQL
Tools: Git, Docker, AWS, Github Actions, CMake, Makefile