Alandis Ayupov

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Education

Rutgers University — New Brunswick, NJ
Bachelor of Science in Computer Science, Minor in Economics — *Dec 2025*
GPA: 3.88/4.00
Related Coursework: Operating Systems, Systems Programming, Software Methodology, Computer Security, Internet Technology, Formal Lang & Automata, Principles of Information & Data Management, Principles of Programming Languages, Design & Analysis of Computer Algorithms, Computer Architecture, Data Structures

Technical Skills

Programming Languages: Python, Java, JavaScript, C, SQL, HTML, CSS
Frameworks/Tools/Libraries: React, Spring Boot, Node.js, Express.js, JUnit, TestNG, Git, Postman
Databases/Cloud: MongoDB, PostgreSQL, MySQL, Amazon Web Services S3(AWS S3)

Work Experience

MSCS Student Programmer — Sept 2024 – Present
Rutgers University — *New Brunswick, NJ*

- Developed a Python application to respond to student emails.
- Automated email response generation using GPT-4o (LLM).
- Improved response accuracy by 10% by implementing cluster-based similarity retrieval and hybrid search functionalities.
- Prepared the data by splitting data into chunks and embedding the chunks for a Retrieval Augmented Generation (RAG) data pipeline.
- Expanded response versatility and coherence by designing a sequence of prompts to handle numerous potential inputs.
- Reduced operational costs of the application by implementing batch processing.
- Reduced overhead by utilizing IMAP to generate LLM queries and SMTP to send automated email responses.
- Tested LLM performance using DeepEval.

Projects

E-Commerce Web App

- Developed an E-Commerce web application using React.js and Spring Boot.
- Utilized MySQL database for user and account information storage.
- Implemented session-based user authentication.
- Maintained code and functional integrity with TestNG for unit testing.
- Engineered with code quality in mind using SonarLint.
- Monitored project's code quality using SonarQube generated reports.

Dungeons and Dragons Web App

- Engineered a MERN (MongoDB, Express.js, React.js, Node.js) full-stack character creator web application.
- Implemented CRUD operations with image inputs using Amazon S3.
- Programmed token-based user authentication.
- Ensured seamless communication through HTTP requests via the creation of a RESTful API.

FicScraper

- Designed a web-scraping tool to extract fanfiction using Python, leveraging Scrapy for efficient data retrieval.
- Prepared data before eventual storage in a MySQL database.
- Temporarily deployed the scraper on Digital Ocean for continuous operation.
- Designed an additional Discord bot using JavaScript to present the latest entries of the MySQL database through user commands.

User-Level Thread Library

- Implemented a user-level thread library capable of running multiple threads simultaneously in C.
- Designed a queue for thread scheduling and blocking by using a circular linked list.
- Created a Round Robin scheduler using the ucontext.h library for context switching.
- Ensured timely thread switching by leveraging signal and timer interrupts.
- Implemented robust mutexes for thread synchronization via the use of atomic test-and-set operations.