

PREETHI A | JAVA BACKEND ENGINEER (FRESHER)

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SKILLS

- **Programming Languages:** Java
- **Core Concepts:** Object-Oriented Programming (OOP), Data Structures and Algorithms (DSA)
- **Frameworks & Tools:** Spring Boot, JUnit, Mockito
- **Database Management:** MySQL, PostgreSQL, SQL Query Optimization, and familiarity with CTEs for advanced SQL queries
- **API Development:** RESTful APIs, Backend-Frontend Integration
- **Version Control:** Git, GitHub
- **Testing & Debugging:** Unit Testing, Test-Driven Development (TDD)
- **Platform Skills:** Linux Shell Scripting

PROJECTS

ENHANCED BLOCKCHAIN BASED DECENTRALIZED PUBLIC AUDITING FOR CLOUD STORAGE

- **Description:** Developed a privacy-preserving protocol for secure access and data sharing in cloud storage.
- **Purpose:** Ensured data confidentiality and prevented unauthorized access.
- **Technologies Used:** Blockchain, Attribute-Based Access Control, Proxy Re-Encryption.
- **Tools:** ASP.NET, Visual C#, SQL Server, Microsoft Visual Studio.
- **Key Contributions:**
 - Implemented anonymous access requests with robust data integrity assurance.
 - Developed dynamic permission management and integrated feedback-driven improvements.
 - Reduced data breaches by designing a secure, scalable authentication system.
- **Outcomes:** Improved security and data confidentiality, earning positive user feedback.

FULL-STACK MERN SOCIAL MEDIA APP FOR SHARING LIFE EVENTS

- **Description:** Built a fully functional MERN-based social media platform, Memories, for sharing life moments.
- **Purpose:** Demonstrated full-stack development expertise by creating a responsive, user-friendly app.
- **Technologies Used:** React, Node.js, Express, MongoDB, Redux.
- **Tools:** Visual Studio Code, MongoDB Atlas, Postman.
- **Key Contributions:**
 - Developed core features like post creation, likes, comments, and real-time state updates.
 - Optimized backend APIs for seamless CRUD operations and integrated Redux for state management.
 - Ensured high responsiveness and smooth data synchronization using MongoDB Atlas and Postman.
- **Outcomes:** Delivered a production-ready app, gaining expertise in the MERN stack while receiving positive user reviews.

AUTOMATED GITHUB ACTIONS DOCUMENTATION FOR CONSISTENT MARKDOWN UPDATES

- **Description:** Created a GitHub Action that auto-generates Markdown documentation for workflows directly from the action.yml file.
- **Purpose:** Streamlined and automated documentation updates to ensure accuracy and consistency with minimal manual effort.
- **Technologies Used:** GitHub Actions, YAML, Markdown, Git.
- **Tools:** GitHub, Ubuntu, YAML templates.
- **Key Contributions:**
 - Automated multi-line YAML field parsing, ensuring proper Markdown formatting.
 - Integrated functionality for auto-committing and pushing updates to the repository.
 - Reduced documentation effort and human error, improving efficiency across projects.
- **Outcomes:** Achieved 100% documentation alignment with codebase changes, saving time and enhancing reliability.

AI-POWERED JOB RECOMMENDATION SYSTEM WITH NLP AND FLASK INTEGRATION

- **Description:** Designed a job recommendation system leveraging ML and NLP to analyze skill similarities and suggest opportunities.
- **Purpose:** Enhanced job matching accuracy to improve user satisfaction.
- **Technologies Used:** Python, Flask, Scikit-learn, Spacy, MongoDB.
- **Tools:** Flask (Web Interface), Scikit-learn (Machine Learning), Spacy (NLP), MongoDB (Database).
- **Key Contributions:**
 - Built a skill-based recommendation algorithm using Scikit-learn and Spacy for NLP.
 - Developed an intuitive Flask-based web interface with seamless database integration.
 - Implemented Agile methodology for iterative improvements and user feedback.
- **Outcomes:** Delivered a 35% boost in job recommendation relevance and improved search experience for users.

CUSTOM REDIS SERVER IN PYTHON WITH MULTI-THREADING & TTL KEY EXPIRY

- **Description:** Engineered a Redis-like server in Python to replicate data storage and retrieval functions, including TTL-based key expiration.
- **Purpose:** Gained practical insights into Redis architecture and multi-threading for scalable data processing.
- **Technologies Used:** Python (3.7+), Redis Protocol, Shell Scripting, Threading, Ubuntu/Linux.
- **Tools:** Python, redis-cli, telnet, Ubuntu.
- **Key Contributions:**
 - Implemented multi-threading for concurrent client requests, improving system efficiency.
 - Built robust testing scripts using redis-cli and telnet to verify system functionality.
 - Collaborated with the team to optimize the server for high scalability and performance.
- **Outcomes:** Enhanced understanding of server architecture, distributed systems, and multi-threading in high-demand environments.

CONFERENCE PUBLICATION

ENHANCED BLOCKCHAIN BASED DECENTRALIZED PUBLIC AUDITING FOR CLOUD STORAGE

- **Conference:** International Conference on Emerging Computing and Applications (ICOECA 2024).
- **Research Focus:** Designed a blockchain-based solution for secure, decentralized cloud storage auditing. Impact: Enhanced cloud data security through tamper-proof, transparent audits, reducing unauthorized access risks.
- **Technologies Used:** AES encryption, TLS for secure key exchange, blockchain for anonymous transactions, and access control mechanisms.
- **Key Contribution:** Developed a scalable framework to improve data confidentiality and prevent data breaches. **Outcome:** Recognized at **ICOECA 2024** for innovative applications of blockchain in cloud storage security.

EDUCATION

- **Bachelor of Engineering in Computer Science and Engineering**
- Sathyabama Institute of Science and Technology, Chennai | **CGPA: 8.29** | **2024 Graduate**
- **XII and X Grade**
- Mount Zion Matriculation Higher Secondary School, Pudukkottai
- **XII:** 75.67% | **X:** 98.6%

CERTIFICATIONS

- **ICOECA 2024** : Recognized for research on blockchain-based secure cloud storage.
- Cognibot: **AI and Machine Learning Applications.**
- Algoxfusion Private Limited : **Flutter Mobile App Development.**
- Pentagon Space: **Java Full Stack Development**