ATHARVA NEGI

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PROFILE

Software Engineer with over 1 year of experience in designing, developing, and maintaining scalable web applications and APIs. Currently pursuing a Master's in Computer Science at Emory University, I specialize in full-stack development, crafting secure, user-centric solutions, and optimizing frontend-backend communication. Skilled in modern programming languages, agile methodologies, and cross-functional collaboration to deliver high-quality, innovative software.

EDUCATION

Master of Science in Computer Science, *Emory University* 08/2024 – 05/2026 | Atlanta, United States
Relevant Coursework: Algorithms, Machine Learning, Natural Language Processing

Bachelor of Engineering in Computer Science, *Devi Ahilya University* 08/2019 – 05/2023 | Indore, India
Relevant Coursework: Data Structures & Algorithms, Operating Systems, Database Management Systems, Object Oriented Programming, Machine Learning, Software Engineering, Web Development, Artificial Intelligence

SKILLS

- **Programming Languages:** C, C++, Java, Python, JavaScript, PHP, HTML, CSS
- **Web Development:** ReactJS, Redux, NodeJS, ExpressJS, Flask, Spring Boot, Drupal
- **Machine Learning & AI:** TensorFlow, Keras, Scikit-Learn, Pandas, NumPy, OpenAI API
- **Databases:** MySQL, MongoDB, SQL
- **Tools & Platforms:** Git, Microsoft Office, Maven, Mongoose, CI/CD

PROFESSIONAL EXPERIENCE

Cognizant Technology Solutions, *Programmer Analyst Trainee* 09/2023 – 07/2024 | Pune, India
- Developed and maintained scalable web applications using Drupal, PHP, React, REST APIs, and JavaScript, achieving 100% on-time delivery with a focus on performance optimization.
- Collaborated with cross-functional teams to design, deploy, and manage websites, driving an 8% improvement in development efficiency through agile practices and continuous integration.
- Enhanced UI responsiveness by reducing loading times, optimizing front-end performance, and driving a 12% increase in user satisfaction and retention rates.
- Refactored complex codebases, reducing code complexity by 15%, which accelerated development timelines, minimized errors, and improved maintainability.

Cognizant Technology Solutions, *Software Engineer Intern* 01/2023 – 06/2023 | Pune, India
- Designed and developed responsive full-stack web applications using Java, JavaScript, React, and Node.js, resulting in a 20% boost in user engagement metrics.
- Implemented and maintained RESTful APIs, optimizing frontend-backend communication by 30% and improving data exchange with third-party integrations.
- Streamlined UI/UX designs by incorporating user feedback and conducting usability tests, reducing support tickets by 25% and increasing customer satisfaction.

PROJECTS

CRAVE (Comparative Retrieval Augmented Visualization Framework), *Full Stack, Artificial Intelligence*
- Developed a React-based framework to compare and evaluate RAG systems, implementing multi-aspect retrieval for applications like multi-stance argument generation and fairness analysis
- Integrated OpenAI GPT and Hugging Face models with customizable prompts, and built LLM-based evaluation for context relevance, answer relevance, and groundedness with visualizations
- Utilized Flask, Python, and agile practices to collaborate with a research team on system design and development, leveraging skills in backend API development and data processing

nlTGCR: A Novel Second-Order Optimization Algorithm for Efficient Neural Network Training, *Machine Learning*
- Developed nlTGCR, a novel second-order optimization algorithm that efficiently approximates Hessian curvature to avoid local minima and improve neural network training performance
- Implemented and compared nlTGCR with first-order methods (ADAM, RMSProp) and second-order baselines (Full-Matrix AdaGrad, Shampoo) on image classification tasks (CIFAR10/100) and datasets with highly correlated features
- Demonstrated nlTGCR's superiority, achieving 54.52% test accuracy vs 51.3% for ADAM on a 2-layer MLP, while analyzing trade-offs between computational efficiency and model accuracy for various use cases

Graphical Password Authentication, *Full Stack (MERN)*
- Designed and developed a secure MERN stack application that replaces traditional passwords with a graphical sequence-based authentication system
- Implemented JWT authentication, Redux state management, and RESTful APIs to handle user authentication flows, with secure password hashing and cloud storage for image sequences