S M Shezan Ahmed

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Profile

WeChat

Motivated Software Engineering student at Zhengzhou University (CGPA 3.82/4.0, ranked top of class), with a strong research and project background in Artificial Intelligence, Machine Learning, and Deep learning. Published author and two-time Outstanding Student Award winner. Aiming to pursue a Master's in Data Science/AI under the CSC Scholarship to contribute to cutting-edge AI innovations and sustainable solutions.

Education

Zhengzhou University, Henan, China 2022 – 2026 (Expected)
BSc in Software Engineering
- Current CGPA: 3.82/4.0 (Top of Class)
- AverageGrade 90.53
- Merit-based academic excellence awards (twice)
- Core Courses: Data Structures & Algorithms, OOP in Python, Operating Systems, AI, Machine Learning, Deep Learning, DBMS, Linear Algebra, Calculus I–II, Statistics, Operating Systems

Experience

Zhengzhou University Jun 2024- Aug 2024
Human Gait Recognition (ResNet-50) – Trained on 865k+ silhouette frames (100 IDs) and achieved 80% test accuracy. Built an end-to-end video pipeline (detection → silhouette extraction → ID), optimizing data prep, augmentation, and training to support real-time inference and robust deployment.

Research & Publications

- Ahmed, S. M. S. (2025). *The Role of Artificial Intelligence in Revolutionizing Construction Project Management: Enhancing Efficiency and Sustainability.* North American Academic Research, Vol 8(1). Issue 1, 2025.
  doi: https://doi.org/10.5281/zenodo.14840458

  Engineered cross-functional AI systems: resource/risk prediction (3.1, 3.7), computer vision compliance (5.3), and waste/energy optimization (5.5). Quantified 27% waste reduction and 22% downtime gains; validated efficiency with 50K+ curated site images.

- Ahmed, S. M. S. (2025). *Impact of Automated Software Development Using Large Language Models: Capabilities, Limitations, and Future Evolution* RA Journal of Applied Research Vol. 11 No. 09 (2025): VOLUME 11 ISSUE 09
  doi: https://doi.org/10.47191/rajar/v11i9.07

  Led empirical evaluation of LLMs (GPT-4o, Claude 3.5, Copilot) for code generation/testing tasks (Sec 5.2–5.3), quantifying 55.8% faster development vs. traditional methods. Designed mitigation strategies for hallucinations (Sec 4.1) and context-awareness limitations (Sec 4.2), enhancing output reliability.

Projects

- **PPE Detection for Construction Safety** –Github Link to the project — YOLOv8-based system achieving 93.6% mAP@0.5 (helmet:95.2%, vest:92.1%) with 98.3% precision at 0.85 confidence. Validated on 15K+ site images; reduced safety violations by 52% in field deployment.
- **MentalSupport - AI Mental Health Therapist Made with Medgemma and OpenAI** -
  https://github.com/Shezan57/MentalSupport — MentalSupport is an advanced AI-powered mental health assistant designed to provide empathetic support, actionable guidance, and critical intervention in times of crisis. Built using Medgemma (via Ollama), OpenAI, Twilio, and modern agent frameworks, it offers both general therapeutic conversation and life-saving emergency escalation features, tailored for accessibility and safety.

- **Vehicle License Plate Detection** – https://github.com/Shezan57/Computer-Vision/tree/main/License-Plate-Extraction-Save-Data-to-SQL-Database — Real-time recognition system with 86.7% mAP@0.5, 100% precision at 0.899 confidence, and 95% recall. Integrated automated database logging for traffic management applications deployment.
- **Educational/Research Assistant AI Agent** – https://github.com/Shezan57/AI-Researcher-Agent — Designed and implemented an AI-powered research assistant that automatically searches relevant topics on arXiv, fetches and analyzes the most recent academic papers, and generates structured literature reviews or drafts. Outputs are compiled as LaTeX PDF files, enabling efficient, automated academic reporting and synthesis.
- **Production-Grade MLOps Pipeline: Insurance Premium Prediction Using AWS, Docker, and CI/CD** - https://github.com/Shezan57/MLOps-Insurance-Prediction-Full-Project — Developed and deployed an end-to-end, cloud-native MLOps pipeline for vehicle insurance premium prediction, featuring automated data ingestion from MongoDB Atlas, robust validation, feature engineering, model training, and evaluation with real-time deployment on AWS. Implemented CI/CD using GitHub Actions and Docker, with secure secret management and a modular, production-ready architecture. Integrated model registry on Amazon S3, custom logging, and exception handling for observability and operational maturity. Demonstrated best practices in scalable MLOps, clean code separation, and infrastructure automation, ensuring deployment readiness for real-world production environments.
- **Movie Recommend System** - https://github.com/Shezan57/ML-Projects/tree/main/Movie-recommend-system — Designed and implemented a hybrid movie recommendation system that combines collaborative filtering and content-based techniques to generate personalized movie suggestions. Processed and engineered features from the MovieLens dataset, trained and evaluated models using Python (pandas, scikit-learn, Surprise), and created a simple web/GUI prototype to demonstrate live recommendations and user interactions.

Skills

- **Programming:** Python, JavaScript, Java, C, C++
- **Frameworks:** TensorFlow, PyTorch, OpenCV, Hugging Face Transformers, React, Next.js, Flask, Tailwind CSS, Vite, SQL
- **MLOps Tools:** MLflow, DVC, DagsHub, Linux, kubernetes, AWS, Docker
- **LLM Tools:** OpenAI API, LangChain, LangGraph, Langsmith, MCP Server
- **Deep Learning:** ANN, CNN, RNN, LSTM, GRU, Seq2Seq, Attention, Transformers
- **Tools:** Git & Github, Linux, Jupyter, VS Code, Pycharm, Google Colab
- **Editor Skill:** Microsoft Office and LATEX
- **Soft Skill:** Communication, Teamwork & collaboration, Leadership, Critical/analytical thinking, Adaptability, Professionalism & work ethic, Conflict resolution & stakeholder management

Awards & Honors

- **Outstanding Student Award**, Zhengzhou University – 2023 and 2024 (twice in a row).
- **Henan Government Scholarship (2022)** - Awarded as an international student to fully fund undergraduate studies.
- **Best Monitor**—Won the best monitor award in 2024.

Leadership & Extracurriculars

- **Volunteer Coordinator, Help Trust for Student**
  Led branch operations delivering verified financial aid to students injured in the July Revolution. Managed end-to-end process (applications, evidence checks, disbursement) to ensure funds reached genuine beneficiaries.
- Mentor for junior students in deep learning fundamentals.

Languages

- English – Proficient
- Bangla – Native
- Chinese – HSK-3 Official, Score 273
- Hindi/Urdu - Fluent