Shamshad Ansari

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Education

Fisk University · Nashville, TN GPA : 3.95
Bachelor of Science in Computer Science *Expected Graduation: Dec 2027*
Relevant Coursework: Intro to CS (Python & Java), Computer Security, Calculus I & II, Discrete Mathematics

Vanderbilt University · Nashville, TN GPA : 4.0
Consortium Student
Relevant Coursework: Program Design & Data Structure, Programming Languages

Technical Skills

Languages: JavaScript(ES6+), Java, Python, TypeScript, Swift, MongoDB, HTML/CSS
Frameworks: Bootstrap CSS, Angular, NextJS, NodeJS, ExpressJS, Keras
Libraries: ReactJS, Jest, Scikit-learn, PyTorch, Optuna, NumPy, Pandas, Matplotlib
Developer Tools: Linux, Git/GitHub, Docker, Yarn, Webpack, VS Code, Figma, Sublime Text

Relevant Experience

Fisk University June 2025 – July 2025
Cybersecurity & AI/ML Intern *Nashville, TN*

- Designed and trained deep learning ensembles for EV intrusion detection using CNN based architecture like **ResNet, EfficientNet, DenseNet, and Xception**, incorporating a custom **PCAP-to-image transformation** and ensemble voting strategies achieving upto **97.32%** accuracy .
- Organized experimental workflows in Python to streamline data preprocessing, model training, and evaluation.
- Automated **hyperparameter optimization** using **Optuna (TPE)** across five architectures to support systematic experimentation and reproducible results.
- Developed a **federated learning framework** for smart grid security using **XGBoost, Random Forest, LightGBM, LSTM, and Transformer**, achieving up to **99.88%** accuracy in federated models.
- Enhanced model **interpretability** using **SHAP-based explanations** and attention heatmaps; contributed technical insights and empirical findings to an ongoing research manuscript.

Everestwalk Groups April 2024 – July 2024
Software Engineering Intern *Kathmandu, NP*

- Worked on a social-media-style platform designed to connect users with certified mental and behavioral health professionals.
- Implemented frontend features using **React, Redux, and MUI** across the admin portal and user dashboards, improving usability for **250+** active users.
- Contributed to the on-time delivery of the MWell Platform MVP by streamlining the landing page and admin portal, and writing REST API **unit tests** with **Jest** to improve application reliability.
- Identified and resolved critical UI and integration bugs during bug bash sessions, strengthening platform stability and overall user experience.

Projects

FitPro | Fitness App

- Developed an **iOS fitness tracker** using **Swift & SwiftUI**, supporting user profiles, goal-setting, nutrition logging, and long-term progress tracking.
- Built scalable **RESTful APIs** with **Node.js & Express** to generate personalized workout plans based on user goals and activity history.
- Implemented an **exercise recommendation algorithm** with adaptive difficulty that adjusts workouts based on user progress and engagement patterns.
- Added **data validation, state management, and gamification features** (streaks, badges, milestones) to improve consistency and retention.

Clips | Video Sharing App

- Built a full-stack **video-sharing platform** using **Angular and Firebase**, supporting authenticated uploads and secure content management.
- Implemented **authentication and role-based authorization** using route guards to enforce access control across application routes.
- Designed the application using Angular's **modular, service-based architecture** to improve maintainability and scalability.

Academic Projects | Vanderbilt University

- Developed a **Calendar Application** in Java, refactoring array-based storage into a custom **singly linked list** to support efficient dynamic insertions and deletions.
- Analyzed **time and space complexity** trade-offs and implemented traversal logic to maintain reminders sorted by date.
- Built a GUI **Snake Game** and a terminal-based **Text Twist Game**, applying **object-oriented design principles** and a custom **Trie** for fast prefix-based lookups.