

# Mohid Tanveer

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## EDUCATION

University of California, San Diego

September 2025 - December 2026

*M.S. Computer Science & Engineering, Overall GPA 3.9/4.0*

*San Diego, CA*

- **Relevant courses:** Recommender Systems and Web Mining, Probabilistic Reasoning & Learning, ML: Learning Algorithms, Adv. Data-Driven Text Mining, Unsupervised Learning, Computer Security

Rhodes College

August 2021 - May 2025

*B.S. Computer Science, Overall GPA 3.91/4.0*

*Memphis, TN*

- **Relevant courses:** Machine Learning, Artificial Intelligence, Mathematical Statistics, Statistical Analysis, Multivariable Calculus, Advanced Algorithms, Theory of Computation, Systems Programming and Computer Organization

## EXPERIENCE

St. Jude Children's Research Hospital

September 2024 - May 2025

*High-Performance Research Computing - Student Artificial Intelligence Engineer*

*Memphis, TN*

- Reduced ServiceDesk ticket volume by 80% by deploying a production LLM-powered chatbot backend for enterprise HPC systems, supporting secure model inference and real-time responses.
- Designed a Retrieval-Augmented Generation (RAG) inference pipeline using vector search on embeddings, semantic retrieval, local LLM inference, and knowledge graphs to improve response precision and data security.
- Enabled active research projects by designing and integrating machine learning pipelines, conducting data preprocessing, feature engineering, model training, evaluation, and end-to-end pipeline integration in collaboration with domain researchers.

*High-Performance Research Computing - Intern*

May 2024 - August 2024

- Streamlined researcher workflows by automating large-scale image file conversion through a Flask-based backend microservice exposing REST APIs, integrated with an internal imaging platform and Slurm for distributed job scheduling and resource management.
- Enabled early detection of network anomalies and consistent performance evaluation by building automated monitoring, performance analysis, and data visualization systems for large-scale research storage infrastructure.
- Improved resource allocation decisions by implementing Splunk-based logging, monitoring, and observability for Windows and Linux systems, analyzing workstation utilization, and generating actionable system metrics and visualizations.

Rhodes College Department of Computer Science

August 2023 - May 2025

*Peer Tutor*

*Memphis, TN*

- Tutored and mentored ~200 introductory and intermediate Computer Science students through twice-weekly sessions covering data structures, algorithms, object-oriented programming, memory management, pointers, and system-level design.

## PROJECTS

Tubify

February 2025 - April 2025

*Web Application*

[GitHub Repository](#)

- Designed and developed a full-stack web application enabling social music discovery by integrating Spotify and YouTube APIs to analyze user and friend listening histories, support shared playlists, and surface personalized recommendations.
- Engineered a scalable backend and data pipeline to batch-process, store, and query audio features and user interaction data using a PostgreSQL-backed architecture, supporting efficient retrieval and long-term persistence.
- Built and evaluated a personalized music recommender system using collaborative filtering, content-based filtering, taste clustering, and MMR reranking, leveraging Librosa-based audio feature extraction and GPU-accelerated FFT analysis to improve recommendation quality.

ScreenSense

December 2025

*Course Project*

[GitHub Repository](#)

- Built a hybrid computer vision detection system to identify screen re-photography at verification time by combining EXIF metadata analysis, wavelet-based CNN models, and sub-pixel feature extraction.
- Achieved state-of-the-art detection performance by fusing a metadata-driven random forest prior with learned pixel-level signals, demonstrating robustness across diverse image conditions.

## SKILLS

**Programming Languages:** Python, C, C++, Java, JavaScript, TypeScript, SQL, R, Bash, HTML/CSS

**Tools and Platforms:** Git, Node.js, REST APIs, Docker, Kubernetes, Linux (RHEL), Virtual Machines, PostgreSQL

**ML and Data:** Power BI, TensorFlow, PyTorch, Apache Spark, PySpark, NumPy, SciPy, Pandas, Matplotlib

**Languages:** Fluent in English, Urdu, and Punjabi; Conversational Proficiency in Spanish, Hindi | **Honors:** Eagle Scout