Mohid Tanveer

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EDUCATION

University of California, San Diego **September 2025 - December 2026**
M.S. Computer Science *San Diego, CA*

- **Relevant courses**: Recommender Systems and Web Mining, Probabilistic Reasoning & 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 **May 2024 - May 2025**
High-Performance Research Computing - Student Artificial Intelligence Engineer *Memphis, TN*

- Developed and deployed an internal chatbot service powered by a Retrieval-Augmented Generation (RAG) pipeline, ensuring secure handling of sensitive HPC system data. Leveraged local LLM inference, vector databases, and knowledge graphs to enhance response precision, achieving an 80% reduction in ServiceDesk ticket volume.
- Collaborated with researchers to support machine learning and AI tool development, including data preprocessing, model training, and pipeline integration for various research projects.

High-Performance Research Computing - Intern

- Developed a Flask-based job server microservice on a virtual machine to automate the conversion of tagged image files into SyGlass project files. Integrated with an internal imaging file-sharing platform and leveraged Slurm for resource allocation and job scheduling, streamlining researchers' workflows and improving productivity.
- Developed and implemented automated network testing, data visualization, and analysis systems focused on research storage across St. Jude's campus, enabling consistent performance evaluation and early detection of network anomalies.
- Set up Splunk logging on workstations to analyze machine utilization and generate metrics and data visualizations for informed resource allocation.

Rhodes College Department of Computer Science **August 2023 - May 2025**
Peer Tutor *Memphis, TN*

- Tutored and guided ~200 introductory and intermediate Computer Science students in twice-weekly sessions
- Explained core programming and systems concepts, including object-oriented programming, pointers, memory management, process architecture, and system-level design.

PROJECTS

Tubify **February 2025 - April 2025**
Web Application *Repository Link*

- Built a full-stack app to share and explore music tastes, surfacing friends with similar listening profiles.
- Engineered a scalable data pipeline to batch-process and store extracted audio features and user-specific data in a PostgreSQL-backed architecture, ensuring efficient retrieval and long-term persistence.
- Extracted audio features using Librosa and GPU-accelerated signal processing, applying FFT-based analysis to quantify musical characteristics for richer recommendations.
- Built a personalized music recommender system combining collaborative filtering, content-based analysis, taste clustering, and MMR reranking to adapt recommendations through continuous feedback.

ScreenSense **December 2025**
Course Project *Repository Link*

- Built a hybrid EXIF, wavelet-CNN, and sub-pixel based detector for identifying screen re-photos at verification time.
- Achieved state-of-the-art detection using a metadata-driven random-forest prior fused with learned pixel-level signals.

SKILLS

Languages: Advanced in Python. Proficient in C, Java, HTML/CSS, JavaScript, and SQL. Experienced in C++ and R.
Tools: TensorFlow, PyTorch, PySpark, Power BI, Docker, NumPy, Scipy, Pandas, Git/GitHub, GNU/Linux, Node.js.
Languages: Fluent in English, Urdu, and Punjabi; Conversational Proficiency in Spanish, Hindi | **Honors:** Eagle Scout