

# Fahd Khattak

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## Education

Louisiana State University   Roger Hadfield Ogden Honors College   Baton Rouge, LA	May 2027
B.S. Computer Science   Business Administration Minor	GPA: 4.24/4.3
<b>Relevant Coursework:</b> Operating Systems, Object Oriented Design, AI & LLMS, Data Structures, Numerical Methods	
<b>Awards &amp; Honors:</b> LSU President's Alumni Scholar, President's List (23'-25'), LSU President's Future Leaders In Research	

## Skills

**Languages:** Python, Verse, Bash, SQL, C, C++, Java, HTML, CSS, JavaScript, TypeScript, YAML

**Technology/Frameworks:** AWS, Azure, Kubernetes, Node.js, React, ChromaDB, PostgreSQL, NumPy, TensorFlow, Unsloth, Pandas, React, QT, Git, Jest, Pytest, Jira, Agile, Excel, CUDA, Linux, Unreal Engine 5, Unity

## Experience

Software Engineer Intern   Northrop Grumman   Dulles, Virginia	June 2025 - Aug 2025
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- Drove a **430%** increase in max simulation runtime supporting **14+** concurrent headless scenarios with multi-instructor access by replacing legacy Windows VMs with a **PostgreSQL**-powered client-server architecture on **Kubernetes Cluster**
- Streamlined deployments and cut integration errors for **6** downstream teams working with a multiple-TB database by introducing a **Python** driven **Alembic** schema versioning system across a **PostgreSQL** stack
- Collaborated in an fast paced **Agile** team environment, participating in sprint planning and code reviews while delivering iterative improvements to simulation runtime, database reliability, and GUI tools

Machine Learning Intern   Shell   Baton Rouge, Louisiana	Jan 2025 - May 2025
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- Launched real-time analytics of railcar lock conditions via a centralized **Power BI** dashboard continually fed with model outputs through an end to end pipeline
- Delivered **85%** classification accuracy on defective railcar locks, validated on a held-out dataset, by fine-tuning **Llama-3.1-Vision-Instruct** with, **Python**, **QLoRA** via **Unsloth + Hugging Face**, boosting inspection reliability
- Achieved **sub-10 s** inference and shorter manual inspections on railcars, by **dockerizing** a 4-bit quantized vision model, exposing it via **REST API**, and integrating **RAG**-based retrieval from **Azure Blob Storage**

Backend Software Engineer   Smartective (LSU Biomechanics Lab)   Baton Rouge, Louisiana	Aug 2024 - Present
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- Enabled OSHA-compliant reporting with **<10ms** latency for **10+** endpoints by building a based real-time safety platform on **React.js** and **Node.js**, integrating biometric sensor data into Smartective's backend.
- Streamlined backend workflows with **JavaScript** for real-time data logging and multi-region payment processing by building **AWS Lambda** functions integrating **DynamoDB** with the **Stripe API**
- Improved deployment reliability with **100%** branch coverage by writing comprehensive **Jest** unit tests across the **JavaScript** codebase

## Projects

Game Developer   Epic Games   Remote	June 2023 - Present
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- Collaborated on a **5-person** studio to create Fortnite maps in **Unreal Engine 5** with **C++/Verse** mechanics and **Object-Oriented design**, reaching **10M+ total plays**, **10k peak CCU**, and generating **\$250k** in revenue
- Sustained **>2,000** concurrent users and boosted player retention by **30%** by shipping rapid, bug-free iterations that improved **UI/UX**, gameplay systems, and animations based on player feedback

Impact Bridge   Fullstack   J.P Morgan Code For Good	Oct 2025
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- Built a full-stack matching platform using **React**, **TypeScript**, **FastAPI**, and **Python** to connect children with college athletic teams
- Increasing matching speed by **30%** by integrating **Gemini AI** and **SQLAlchemy REST APIs** to automate athlete-team communication

## Leadership

Engineering Development Ambassadors (EDA)   Outreach Chair, Treasurer	May 2023 - present
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- Mentored **200+** club members, leading engineering demos, activities, and discipline talks at K-12 Schools
- Maintained rigorous oversight of a **\$30K/year** budget, supporting smooth and compliant financial operations