Ashu Sangar

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EDUCATION

University of Pittsburgh | **BS in Computer Science** | Related Fields: Mathematics and Statistics | GPA: 3.6/4.0

EXPERIENCE

Neuraville - ***Software Engineer*** ***January 2025 - May 2025***

- **Developed real-time AI-human interface** using Python, integrating FEAGI AI system with Blender to translate human body movements into 3D simulations via computer vision and motion capture APIs.
- **Engineered dynamic character binding system** with automated Python scripts for JSON configuration generation, **reducing manual setup by 80%** and enabling universal rigging for any 3D character model.
- **Optimized system performance by 99%**, reducing iteration delays from 2 seconds to 1.25ms through asynchronous processing and threading improvements, enabling scalable multi-character AI control with **30-40% increased responsiveness**.
- **Built precision synchronization system,** achieving accurate real-time matching between human input, AI decisions, and 3D character output using timestamp correlation and predictive buffering techniques.
- **Developed cloud-based** platform with **RESTful APIs and WebSocket** connections for secure remote AI controller access, real-time data streaming, and multi-user interaction capabilities
- **Implemented automated deployment pipelines** using Python and Docker for rapid environment setup, consistent development workflows, and streamlined AI-driven character deployment.

Outlier AI - ***Prompt Engineer*** ***April 2024 - December 2024***

- **Developed and optimized 50+ AI prompts** across multiple domains (coding, reasoning, creative writing), **improving response accuracy by 25%** and enhancing contextual relevance through systematic A/B testing and iterative refinement.
- **Designed comprehensive stress-testing framework** with 20+ adversarial prompts to identify model vulnerabilities, edge cases, and failure modes, guiding targeted enhancements that **boosted overall model robustness by 30%**.
- **Specialized in multi-modal prompt engineering** for code generation, mathematical reasoning, and conversational AI, developing domain-specific evaluation criteria and performance metrics.

Personal Projects

Legal Precedent Retrieval System using NLP | *Python* ***April 2025***

- **Built an advanced NLP system** using transformer models (ColBERT/BERT) to retrieve and rank legal precedents from **59,000+ Pennsylvania court cases**, **significantly outperforming traditional keyword-based methods in precision and recall metrics.**
- **Engineered citation network analysis** to validate retrieval accuracy and assess system performance across complex legal document relationships and case law dependencies.

SKILLS

Programming Languages: Java, Python (Pandas, Pygame, SQL), C, HTML, CSS, JavaScript, TypeScript, React, Node.js.

Frameworks & Libraries: React, Node.js, Pandas, OpenCV, Blender API, RESTful APIs, WebSocket.

Tools & Platforms: Docker, Git/GitHub, Blender, Cloud Platforms, CI/CD Pipelines, JSON Configuration.