Christopher Jacobs

christopher-jacobs.com | chejac2000@gmail.com

EDUCATION

CLEMSON UNIVERSITY
PH.D. IN COMPUTER SCIENCE
Present | Charleston, SC
GPA: 4.0 / 4.0

CLEMSON UNIVERSITY
MS IN DIGITAL PRODUCTION ARTS
May 2024 | Charleston, SC
GPA: 3.96 / 4.0

FRANCIS MARION UNIVERSITY
BS IN COMPUTER SCIENCE
May 2022 | Florence, SC
Magna Cum Laude | University Honors
GPA: 3.93 / 4.0

LINKS

Github:// christopher-jacobs
LinkedIn:// christopher-eugene-jacobs

SKILLS

Technical Skills
Python • C++ • Java • SQL • Git • Linux • Bash Scripting • MEL
Frameworks
PyTorch • NumPy • OpenCV • Matplotlib • PyQt 5 • PySide 6 • OpenGL • TaiChi
Software
Unreal Engine 4/5 • Autodesk Maya • Houdini • Nuke • Perforce

COURSEWORK

Graduate
Deep Learning in Computer Vision
Physically Based Modeling & Animation *(Research Asst.)*
Computer Graphics
Technical Art & Direction
Physically Based Visual Effects
Cinematography
3D Modeling and Animation

Undergraduate
Software Engineering (*Teaching Asst.*)
Linear Algebra
Data Structures & Algorithms
Calculus I & II
Technical Physics I & II
Operating Systems
Cybersecurity
Robotics

EXPERIENCE

TEACHING ASSISTANT | CLEMSON UNIVERSITY
Jan 2026 – Present | Charleston, SC

- Collaborate with multiple professors to assist over 100 students in software engineering courses through one-on-one office hours and curated assignments.
- Tutored students in software engineering principles including Agile software development, version control through Git, and how to utilize REST APIs.

RESEARCH ASSISTANT | CLEMSON UNIVERSITY
Jan 2024 – Dec 2025 | Charleston, SC

- Engineered a real-time middleware system between Project Chrono (Python) and Unreal Engine (C++) to enable high-fidelity physical simulations for prototyping and visualization.
- Designed a hybrid physically-informed neural network (PINN) framework that could accelerate vehicle simulation in Unreal Engine by reducing computational overhead while maintaining physical accuracy.

ASSISTANT MANAGER | AMERICAN EAGLE OUTFITTERS
Jan 2021 – May 2022 | Florence, SC

- Directed and optimized selling team and merchandise team performance to increase store revenue (+$5,000 from 2021 LY) and conversion rates (+2.5% from 2021 LY).
- Train and onboarded new associates on store procedures, product knowledge, and selling models while maintaining a welcoming and inclusive environment for both guests and brand ambassadors.

PROJECTS

PHYSICALLY BASED RAY MARCHER FOR VISUAL EFFECTS
Implemented a physically accurate ray marcher using **C++** for volumetric effects including spline wisps, noise clouds, and terrain synthesis, all of which mimic film-quality VFX pipelines.

GEOMETRY INFERENCE USING U-NET FEATURE NETWORK
Using **TEMPEH's** U-Net volumetric feature network and **TaiChi**, implemented a multi-threaded neural inference **Python** program to visualize sensor views, data, and emulate COLMAP's SfM output

AWARDS

2025 Best Presentation Award at MIG
2024 Digital Production Arts Award
2022 Pee Dee Idea Challenge Finalist (4^{th}/100)
2022 Upsilon Pi Epsilon Inductee
2022 University Honors

PUBLICATIONS

[1] E. Port, C. Jacobs, and J. T. Kider Jr. Understanding player dynamics in battle royale environments: A data-driven analysis using the caldera dataset. In *Proceedings of the 2025 18th ACM SIGGRAPH Conference on Motion, Interaction, and Games*, pages 1–11, 2025.