Shomari Taylor

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Professional Summary

Programmer and 3D Artist with 7+ years of experience in software development and digital design. Skilled in communicating complex concepts through teaching**.** Committed to leveraging computer science and creative knowledge to address real-world challenges, with proven contributions to high-budget projects, including AAA video games.

Education

2022–Current **Bachelor of Science, Computer Science,** University of Tennessee Knoxville (UTK).

2021–2022 **Study Abroad, Verto Education (through Richard Bland College)**, London, UK.Subject: Future algorithms for program optimization in applications.

Skills

Programming: Programming: C, C++, C#, Python, Rust, Java, R, JavaScript, HTML/CSS; led C++ note-taking app (OOP, memory management) and C# two-pass assembler (virtual machine, label resolution); built AES-CBC/RSA-OAEP/HMAC-SHA256 secure systems; full-stack development with React/Node.js; ML pipelines in PyTorch/TensorFlow (DeepLabCut).

Machine Learning: Python (NumPy, pandas, scikit-learn) and R; DeepLabCut + SimBA for zebra finch behavior classification; hybrid AES–RSA encryption models in C#; expertise in pose estimation, mixed-effects models, AIC, and frequentist analysis.

Data Science: Large-scale data wrangling, multivariate analysis, and visualization; Python (pandas, Matplotlib) and R (ggplot2, lme4); applied mixed-effects modeling, AIC-based model selection, and ArcGIS for spatial analysis.

3D Modeling: AutoCAD, Blender, Maya, Nomad Sculpt; created research and educational 2D/3D models and visualizations; designed and mapped municipal water lines at Memphis Light, Gas & Water (2017–2021); experience with topographic and spatial modeling..

Project Planning: Managed timelines, deliverables, and workflows for multi-semester projects (C++ app, C# assembler, avian ML pipeline); coordinated teams and self-directed research projects to integrate coding, data science, and ecological analysis.

Work Experience

2025–Present **University of Tennessee**– Research Assistant – Developing Machine Learning Model (DeepLabCut) to study thermoregulatory behavior in zebra finches.

2024–Present **Sony Santa Monica Studio** – 3D Storyboard Artist – Designing cinematic sequences and visual storytelling assets for AAA game development.

2023-2025 **Freelance 3D Artist** – Created custom 3D models, illustrations, and digital assets for individual clients; delivered projects tailored to research, design, and creative needs; managed client communication, timelines, and revisions from concept to final product.

2017-2024 **Content Production & Media Support** – Filmed behind-the-scenes material, captured B-roll, edited video, and developed content discussing life experiences and educational topics.

2023-2024 **Fusion Studios** – Game Development Intern – Created 3D environments in Blender and implemented dynamic third-person camera systems.

2022–2023 **University of Tennessee** – Calculus II Tutor – Supported undergraduates by breaking down advanced calculus topics (e.g., integration) into clear, approachable lessons.

2018–2023 **Kirby Middle & Elementary Schools** – Summer School Tutor / Teacher's Assistant – Tutored K–12 students in math and computer literacy, fostering understanding through engaging, student-centered instruction.

2017–2021 **Memphis Light, Gas, and Wate**r – Engineering Intern – Drafted and digitized water distribution system maps using AutoCAD; assisted with municipal infrastructure projects.

Conference Presentations

2023 Taylor, S. *Designing a Two-Pass Assembler for a Virtual Machine in C#.* Poster. University of Tennessee, Knoxville – EUReCA Undergraduate Research Symposium. Knoxville, TN.

2021 Taylor, S. *Future Algorithms for Program Optimization in Applications.* Poster. International Conference on Computer Science, Engineering and Applications (CSEA 2021). London, UK.

Projects

2025–Ongoing **Hot Birds Game (Unity)** – Co-developing an educational roguelike game that transforms ecological research into interactive gameplay. Designing systems to visualize avian behavior and climate effects, merging scientific accuracy with accessible entertainment.

2025–Ongoing **Automated Avian Behavior Analysis (Python/DeepLabCut)** – Leading a self-directed project in the Derryberry Lab to classify zebra finch thermoregulatory behaviors from thermal and RGB video. Built machine-learning pipelines integrating pose estimation, video analysis, and statistical modeling to study species' responses to climate change.

2025–In Progress **UT Herbarium App** – Collaborating with the UT Herbarium on a proposed mobile app for plant collection and nomenclature management. Planned features include offline data entry, photo integration, GPS tagging, and a searchable catalogue linked to Tropicos and POWO databases.

2024 **Hybrid Encryption System (C#)** – Developed a secure client-server system implementing AES-CBC, RSA-OAEP, and HMAC-SHA256, with encryption/decryption workflows and authentication protocols.

2024 **C# Two-Pass Assembler for a Virtual Machine** – Directed the design and implementation of an assembler to parse and translate assembly into machine code, with label resolution, pseudo-instruction expansion, and error handling.

2023- 2024 **C++ Note-Taking Application** – Led development of a cross-platform note-taking application, applying object-oriented design and memory management to build efficient data structures and persistent storage.

2023 **Behavior Classification System for Ant Behavior (Game Development) –** Implemented a system to detect ant NPC behaviors and evaluate AI functionality.

2017-2021 **Water Mapping System – Memphis Light, Gas & Water (AutoCAD)** – Supported infrastructure planning by designing and mapping municipal water lines in AutoCAD. Contributed to a GIS database of Memphis's water distribution network, improving spatial accuracy and documentation of public utility systems.

Community Engagement

2024–Current Online mentor for Black students learning 3D modeling, guiding career paths in animation and game development.
2023 Kirby Middle & High School – Led digital art class on 3D modeling (AutoCAD, animation, game dev).
'17–'23 Tutor at Kirby Middle & High School – Math support and pre-SAT/ACT prep.
'17–'19 Ronald McDonald House, Memphis, TN – Sanitized and maintained living spaces.
'16–'18 Memphis Food Pantry – Organized donations and prepared meals.
'16–'17 Lewisburg Primary School, MS – Library assistant for reading classes and book fair.

Additional Skills

Game Development: Skilled in Unity, Unreal Engine (3–5), Godot, and Bitsy for building gameplay systems, UI, and interactive mechanics. Contributed to AAA projects at Sony Santa Monica and created characters/environments at Fusion Studios. Currently co-developing the *Hot Birds Game*, an educational roguelike that transforms ecological research into an engaging learning experience.

Education: Experienced in supporting learners from K–12 through university, including tutoring math and computer science at Kirby Middle & Elementary summer programs and at UTK (Calculus II).

Served as a Teaching Assistant for a digital art course at Kirby Middle, where I taught 3D modeling with Nomad Sculpt and promoted accessible, creative learning.

Content Creation: Versatile experience in digital media production, including video editing, behind-the-scenes filming, B-roll capture, algorithm analysis, workshopping content ideas, creating thumbnails, and designing YouTube banners; past projects have included documenting life experiences in the form of a short flim and tiktoks.