

Jeffrey Ernest

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EDUCATION

THE COLLEGE OF NEW JERSEY (TCNJ), Ewing, NJ May 2026

- **Majors, BS:** Computer Science, Design & Creative Technology | **GPA:** 3.8 / 4.0
- **Involvement:** President, Kappa Theta Pi (KTP); Upsilon Pi Epsilon (UPE); Alpha Kappa Psi (AKPsi).
- **Relevant Coursework:** UI/UX, HCI, Software Engineering, Operating Systems, Database Systems.
- **Honors:** Deans Lists (every semester), Presented Research at **ICMC Boston 2025**, Mayo Business Plan **3rd place**, NCWIT Collegiate Award **Finalist, Second Place** for Undergraduate Posters at SACNAS.

TECHNICAL PROJECTS

[OpenTomorrow](#) Oct 2025 – Present

- Engineering a production-ready social platform using **TypeScript** and **Expo**, architecting a modular system from scratch to support cross-platform mobile and web deployment.
- Utilize an **AI-native workflow** (**Cursor, Copilot, Claude**) to accelerate feature delivery and maintain architectural integrity through automated unit testing and systematic refactoring.
- Built a **real-time data layer with Supabase**, implementing secure Row-Level Security (RLS), custom authentication workflows, and high-concurrency database synchronization.
- Developed a responsive frontend hosted on **Vercel**, translating high-fidelity **Figma prototypes** into performant, reusable React components to ensure a seamless user journey.

[AccessForYou](#) Fall 2024

- Engineered a full-stack reporting platform using **Ruby on Rails**, effectively simplifying complex campus accessibility data into an actionable digital interface.

[Real-Time Conducting Tutor](#) (Undergraduate Research) Aug 2025 – Present

- Developing a high-performance computer vision system in **Python** using **MediaPipe** to process skeletal pose data at **30+ FPS** with low-latency visual feedback.
- Advancing system accuracy by replacing heuristic algorithms with a custom **Keras-based deep learning model** trained on a hand-collected dataset of **~5,000** video samples.
- Engineered the **end-to-end ML pipeline**, including data collection, cleaning, and model training to achieve higher precision in real-time gesture recognition.
- Building a **data-driven UI** to visualize complex algorithmic feedback using **Tkinter**.

WORK EXPERIENCE

WEBSITE DESIGN INTERNSHIP, [Perrineville Jewish Center](#), Millstone, NJ Feb 2026 - Present

- Collaborated with 2 stakeholders to define requirements, translating organizational goals into a high-fidelity **Figma** prototype to validate the user experience before development.
- Engineered a responsive, custom frontend using **HTML, CSS, and JavaScript**, optimizing the interface for 20+ community members across **mobile, tablet, and desktop** viewports.

BUILDING MANAGER, Brower Student Center (BSC), Ewing, NJ Aug 2024 - Present

- Supervise a team to **coordinate daily operations**, managing technical AV infrastructure and facility safety for high-stakes, high-traffic events.
- Act as the **primary technical point of contact**, providing professional communication and real-time problem solving for diverse stakeholder requirements.

JAVA TEACHER ASSISTANT, Quakerbridge Computer & Learning Service, Lawrence, NJ Summer 2025

- Conducted **live code reviews**, emphasizing well-structured, maintainable code and best practices for novice engineers in **Java and OOP**.