Titilayo Oshinowo

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EDUCATION

Franklin W. Olin College of Engineering   Anticipated Graduation: May 2028

Bachelor of Engineering, Software Engineering and User Experience   GPA: 3.92

PROFESSIONAL EXPERIENCE

Olin Assistive Technology Lab   **Needham, MA**

Device Interaction & Capabilities   *January 2025 – Present*

- Conduct user interviews with blind participants to understand accessibility challenges in assistive technology.
- Prototype interactive designs and conversation software that convert documents into Braille-ready and text-to-speech formats.
- Translate user feedback into actionable design improvements, merging empathy-driven research with software development.

Software Engineering Practices & Tools Lab   **Needham, MA**

Research Assistant   *May 2025 – Present*

- Examine how engineering undergraduates acquire and use software engineering practices and tools (SEPTs), noting the factors that affect utilization and the effects on software design, implementation, and maintenance in STEM projects.
- Perform qualitative analysis of interviews using NVivo to reveal usage patterns and gaps in software-related knowledge, informing strategies to improve teaching and application of SEPTs across engineering disciplines.
- Collaborate with faculty on study design and dissemination, contributing to a SIGCSE 2026 conference paper.

SKILLS

- **Languages:** Java, Python, MATLAB, HTML, CSS, C, SQL, JavaScript, React Native, Node.js, Express.js, Firebase
- **Software Tools:** Git, GitHub, Android Studio, Arduino IDE, NVivo, Figma, Adobe Creative Cloud

PROJECTS

Cross-Platform Wellness App   **Remote**

Software Engineering – Mobile App Development   *April 2025 – Present*

- Building a Duolingo-style wellness app using React Native, delivering daily workout and meditation routines with streak-based gamification.
- Integrating Firebase backend to track user progress, authentication, and personalized data across iOS and Android devices.
- Designing a scalable database structure to store workouts, meditation logs, and performance insights for long-term habit formation.

Health Monitoring Smart Watch   **Needham, MA**

Embedded Systems and Sensor Integration   *October 2025-Present*

- Developing a wearable smartwatch that monitors vital signs for users with medical needs and tracks daily exercise routines.
- Designed a companion mobile dashboard that provides real-time health insights, progress visualization, and accessibility-focused alerts.
- Integrated Arduino-based biosensors and Bluetooth connectivity for seamless data collection and synchronization.

Facial Recognition & Character Mapping Algorithm   **Needham, MA**

Computer Vision   *November 2024- December 2024*

- Built a MATLAB computer vision algorithm to detect facial landmarks and translate them into stylized character models.
- Implemented feature extraction and geometric transformations for expressive face-to-character rendering.

Real Time Motion Sensor   **Needham, MA**

Software Engineering and Robotics   *April 2025 – May 2025*

- Designed MATLAB-based robot control algorithms using encoder feedback for real-time trajectory correction.
- Visualized kinematics and wheel performance through simulation.

Embedded Systems 3D Scanner   **Needham, MA**

Embedded Systems   *October 2025*

- Prototyped a DIY 3D scanning system with Arduino, infrared sensors, and servo-driven motion.
- Generated 3D visualizations from raw sensor data for shape reconstruction.