Shlok Desai

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Education

University of Maryland - College Park August 2023 – May 2026

Bachelor's in Computer Science

- Courses: Data Structures and Algorithms, Linear Algebra, Introduction to Computer Systems, Discrete Math
- Clubs: Founder of Coding for SDG, Engineer at Terrapin Rockets, Member of Google Student Developer Club

Skills

Languages: Python, Java, C/C++, NodeJS, React, HTML/CSS, Django, Kotlin, Git

Research Experience

Research Intern May 2024 – Present

CogT Lab *Stanford University*

- Engineered a robust preprocessing pipeline for ECG data, including denoising, filtering, and segmenting.
- Co-developed a cross-modal autoencoder integrating ECG and fMRI data to create unique patient fingerprints, facilitating advanced pattern analysis in latent space.

Undergraduate Research Assistant December 2023 – Present

ICON Lab *University of Maryland - College Park*

- Designed and launched a paid, web-based cognitive study using JSPsych, successfully engaging 700 participants to analyze memorability across different Pokémon generations
- Employed Matlab and Python to analyze memorability data, and compared results with the RESMEM neural network predictions to demonstrate the influence of familiarity on recall accuracy

Diagnosing Depression using from Wearable Sensors and ML March 2022 – April 2023

Independent Research

- Researched and developed a supervised, binary classification Deep Learning model (Python) to predict MDD using one's activity data achieved 70% accuracy through k-fold validation
- Published in the Journal of Student Research (JSR)

Applying Biorobotics to Spinal-Cord Injury Patients May 2022 – September 2022

UC Irvine Biorobotics Lab *UC Irvine*

- Designed a head mouse for SCI Patients using Solidworks, a CAD application. Prototyped the head mouse using hardware (Breadboard, IMU, circuitry, etc.) and programmed its software (using C++)
- Recipient of UC Irvine research fellowship and California state scholarship

Projects

Venting Diary | *Java, Kotlin, Android Studio* January 2020 – Present

- Conceptualized, designed, developed, and launched a mental health Android app using Java and Kotlin
- Built user-friendly features incorporating UI/UX design, privacy (on-device storage), security (biometric/passcode), multimedia diary entries (text/audio), mood tracker with analytics, and others
- Impacted 7000+ users in 150 countries, with 1000 monthly active users (and growing)

Portfolio Website | *React, Node.js, EmailJS, HTML, CSS* March 2024 – Present

- Developed a personal website using ReactJS and CSS for frontend & NodeJS for backend
- Includes my past and present projects/publications, resume, contact info, and more

Student Attendance Management System | *C++, Database* December 2023 – January 2024

- Developed C++ Attendance System with secure admin/student logins and data management
- Optimized data handling for efficient student record storage and retrieval in C++
- Designed robust system for large-scale student data management with enhanced security

Professional Experience

Web Developer April 2022 – August 2022

Rcoz.us *Remote*

- Templatized the "Stories" section of the website and converted all stories to a new template using HTML/CSS, JS
- Achieved a 25% increase in viewer retention on story pages