Jonah Blackmon

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EDUCATION

The University of Texas at Austin, Austin, TX   May 2028
Bachelor of Science, Computer Science, GPA: 3.91/4.0
Relevant Coursework: OS, Computer Architecture, Data Structures, Autonomous Robotics, Linear Algebra, Discrete Math

EXPERIENCE

Undergraduate Course Assistant for Discrete Mathematics   August 2025 - Present
The University of Texas at Austin | Austin, TX
- Supported instruction for 400+ students through office hours and independently led classes of 30+ students
- Assisted faculty in developing course materials and teaching strategies to improve learning outcomes

Undergraduate Student Researcher   January 2025 - Present
Living with Robots Lab, Texas Robotics | Austin, TX
- Research with a focus on autonomous intelligent robotics and their role in human-robot interaction
- Developed a gesture-based interaction model for industrial robots that can interact with users in real time
- Developing a Multi-Modal LLM solution for interpreting gestures in conversational contexts

Information Technology Intern   May 2025 - August 2025
IT Integrations | Fort Worth, TX
- Led the digital migration of healthcare facilities across Texas that support 150+ users to a new network system
- Provided on-site troubleshooting to resolve hardware and software issues during the network's transitions

PROJECTS

CampusNav - Full-Stack Navigation App | Swift, Git, Firebase, MapBox, MapKit, SwiftUI
- Published a navigation app specifically for college campuses to improve the student experience of getting to class
- Implemented a custom A* routing engine over a complete graph of entrances/pathways, leveraging existing databases, optimizing routes through buildings and pedestrian shortcuts, reducing average walking time by 30%
- Integrated an event discovery system connected with in-app routing to allow users to connect seamlessly

UR5 Human-Robot Interaction Framework | ROS2, Python, OpenCV, Git
- Built a modular ROS2 framework for gesture recognition, dynamic motion, and real-time imitation on a UR5 arm
- Reduced hand detection latency by ~47% and enabled scalable gestures with state-dependent trajectories
- User studies showed higher social compliance with ratings rising from 1.65/5 to 4.65/5 after greeting integration.

QuoteIt - Full-Stack Anonymous Social Media Audio App | Swift, Firebase, AVFoundation, SwiftUI
- Built and published an anonymous social platform enabling real-time audio transcription and quote sharing
- Implemented a low-latency audio streaming pipeline with AVFoundation and Firebase for scalable transcription

Memory Management | C, Linux, Assembly
- Engineered a custom memory management allocation system that outperformed 300+ students in performance and memory utilization. Implemented dynamic page splitting, adaptive use of payload space, and page delimiters

LEADERSHIP & COMMUNITY INVOLVEMENT

ECLAIR Robotics, Austin, TX   September 2024 - Present
Member, C.R.A.C.K.L.E. (Contextual Robotics Arm for Knowledge Learning and Exploration)
- Worked on gesture detection using Leap Motion and integrated ML algorithms for contextual robotic response

Levinson Foundation, Santa Fe, NM   June 2023 - Present
Next-Gen Board Member
- Appointed to youth board researching and funding activism initiatives; responsible for the disbursement of $100,000 of funding to organizations, as well as attending national conferences and climate advocacy events

Texas ACM, Austin, TX   September 2024 - Present
Member
- Participant in software development workshops in UT's chapter of the Association for Computing Machinery

SKILLS

Languages: Java, Python, Swift, C, C++, JavaScript, HTML, CSS, Assembly
Tools & Frameworks: React, SwiftUI, ROS2, Azure, Firebase, Git, Linux, OpenCV, AVFoundation, MapBox, MapKit
Related Skills: CAD, Blender, Adobe Photoshop, Adobe Illustrator, Adobe InDesign, Adobe After Effects