

# Rami Hamada

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## EDUCATION

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### The University of Texas at Austin

B.S. in Electrical & Computer Engineering

Expected Graduation: May 2027

Austin, TX

- GPA: 3.92/4.00

### St. Edward's University (Transfer Institution)

Major: Computer Science

August 2023 – May 2025

Austin, TX

- GPA: 4.00/4.00

## RESEARCH & TECHNICAL EXPERIENCE

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### UT Austin, Advanced Robotic Technologies for Surgery Laboratory

Undergraduate Research Assistant

August 2024 – Present

Austin, TX

#### • Liquid Metal 3D Printing Platform

- Built the software stack for a modified 3D printer enabling gallium-based sensor fabrication
- Implemented a ROS2-based architecture synchronizing printer motion with pneumatic extrusion
- Modified printer firmware and motion parameters to support syringe-based deposition
- Added coordinate transforms to align print paths to custom molds using registration points
- Programmed a Python-based control GUI for printer control, calibration, and experiments
- Automated force-displacement testing and characterization of printed gallium-silicon strain sensors

#### • Colonoscopy Robot Development

- Implemented 4-DOF robotic control using Xbox controller input mapping
- Integrated an NDI Aurora magnetic sensor to track the position and orientation of the endoscope tip
- Enabled low-latency remote teleoperation via Tailscale
- Streamed end-effector camera video into the UI to support visualization of a pre-trained tumor detection model

## WORK EXPERIENCE

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### Mia Bella Trattoria

Server

May 2023 – August 2023

Houston, TX

- Provided attentive service in a fast-paced, high-end dining environment

### Subway

Sandwich Artist

March 2022 – August 2022

Houston, TX

- Handled high-volume food preparation and customer service efficiently

## SKILLS

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- **Languages:** Python, C++, Java, Bash
- **Robotics:** ROS2, Dynamixel SDK, teleoperation, sensor integration
- **Embedded:** Firmware modification (Prusa/Marlin), UART, RS-232, Arduino
- **Tools:** Linux, Git, Docker, OpenCV
- **Interfaces:** wxPython, Tkinter