Rami Hamada

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Education

The University of Texas at Austin *Expected Graduation: May 2027*
B.S. in Electrical & Computer Engineering Austin, TX

- GPA: 3.92/4.00

St. Edward's University (Transfer Institution) *August 2023 – May 2025*
Major: Computer Science Austin, TX

- GPA: 4.00/4.00

Research & Technical Experience

UT Austin, Advanced Robotic Technologies for Surgery Laboratory *August 2024 – Present*
Undergraduate Research Assistant Austin, TX

- **Liquid Metal 3D Printing Platform**
  - Built control interface for modified 3D printer enabling gallium-based sensor fabrication
  - Designed UI for running print tests with adjustable parameters and calibration workflows
  - Managed printer state including print modes, layer control, and dispenser timing coordination
  - Implemented ROS2 architecture coordinating UI, printer control, and dispenser control across processes
  - Developed coordinate transform system for registration between printer and mold frames
  - Modified printer firmware to support syringe-based deposition and custom hardware geometry
- **Colonoscopy Robot Development**
  - Implemented 4-DOF robotic control with Xbox controller input mapping
  - Integrated NDI Aurora magnetic sensor for real-time endoscope tip tracking
  - Enabled remote teleoperation over Tailscale and validated control latency
  - Streamed camera feed to UI for visualization of pre-trained tumor detection model

Work Experience

Mia Bella Trattoria *May 2023 – August 2023*
Server Houston, TX

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

Subway *March 2022 – August 2022*
Sandwich Artist Houston, TX

- Handled high-volume food preparation and customer service efficiently

Skills

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