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 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

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++, 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