CLARK ABOURJEILY

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EDUCATION

Georgia Institute of Technology | *Atlanta, GA*　　　　　　　　　　　　　　　　08/2024 – 05/2026
- M.S. in Robotics, with Core Areas in Controls, Artificial Intelligence (AI), and Perception, **GPA 4.0/4.0**
- Coursework: Robotics, Nonlinear & Networked Control, Deep Reinforcement Learning, Computer Vision

American University of Beirut (AUB) | *Beirut, Lebanon*　　　　　　　　　　　　08/2020 – 06/2024
- B.Eng. in Electrical and Computer Engineering with a Minor in Business Administration, **GPA 4.0/4.0**
- Graduated with High Distinction, with a Track in Control, Robotics, and Intelligence Systems, **ranked 1st**
- Coursework: Autonomous Mobile Robotics, Machine Learning, Modern Control Systems, Instrumentation

EXPERIENCE

FACTS Lab, Georgia Tech, Research Assistant | *Atlanta, GA*　　　　　　　　　05/2025 – Present
- Integrating 6-DOF industrial manipulators for ROS2-based multi-agent collaboration and VLM-driven tasks
- Enabling safety-critical bimanual planning and control with Signal Temporal Logic (STL) constraints

STAR Lab, Georgia Tech, Research Assistant | *Atlanta, GA*　　　　　　　　　01/2025 – 04/2025
- Developed a motion planner using nonlinear optimization for heterogeneous multi-robot coordination
- Added a coalition-aware abstraction to improve synchronization control and eliminate inter-robot collisions

American University of Beirut (AUB), Teaching Assistant | *Beirut, Lebanon*　　09/2022 – 05/2024
- Cooperated with professors in teaching Electronics I & II to junior ECE students
- Enhanced concept delivery and graded weekly assignments and quizzes for 50+ students

Vision and Robotics Lab (VRL), AUB, Research Intern | *Beirut, Lebanon*　　　06/2023 – 08/2023
- Generated a novel multi-sensor, asynchronous, real, and collaborative 3D reconstruction dataset
- Conducted motion capture, experiment design, and sensor fusion using C#, OptiTrack Motive, Cyclone 3DR
- Co-authored a research paper for IROS, 2nd author, Didymos-XR Project

PROJECTS

Look-ahead Unified Camera-LiDAR Inference and Diffusion (LUCID) | *Atlanta, GA*　09/2025 – Present
- Built a multimodal DiT pipeline for dynamics-conditioned future 3D LiDAR generation on nuScenes data

Implementation and Adaptation of Diversity Is All You Need (DIAYN) | *Atlanta, GA*　02/2025 – 04/2025
- Reproduced and validated the base DIAYN algorithm across multiple benchmarks (e.g. hopper, cheetah)
- Extended DIAYN to a 6-DOF Panda Arm, augmented with HRL/VAE to learn more human-relevant skills

Decentralized Heterogeneous Ant Colony Optimization (ACO) | *Atlanta, GA*　　　02/2025 – 04/2025
- Built a decentralized ACO framework for multi-agent cooperation on Georgia Tech's Robotarium
- Integrated reinforcement learning to adaptively balance exploration and connectivity for faster convergence

The Robot Collective: Traffic-Aware Multi-Agent Path Planning, Georgia Tech VIP | *Atlanta, GA*　08/2024 – 12/2024
- Improved simulator efficiency of graph-based planner with dynamic edge weighing for block-stacking bots
- Mentored undergraduate team members to familiarize them with ROS and to enhance workflow

Mixed Reality Virtual Testbed for HoloLens-Robot Multi-Agent System | *Beirut, Lebanon*　09/2023 – 05/2024
- Developed a Unity3D AR application for human-robot collaborative operation through ROS 2 and MoveIt
- Augmented the physical mobile robot with a virtual robotic manipulator to cut simulation costs

SLAM, Kinematics and Motion Planning for Ground and Aerial Vehicles using ROS2 | *Beirut, Lebanon*　10/2023 – 12/2023
- Devised an occupancy grid mapping and path planning algorithm for differential drive robot navigation
- Developed the autonomous motion control model of a 6-DOF drone

EXTRACURRICULAR ACTIVITIES

L'Art de la Musique (School of Music) | *Beirut, Lebanon (Currently Remote, Atlanta, GA)*　01/2007 – Present
- Level VIII of Piano Performance, certified by The Lebanese National Higher Conservatory of Music
- Gave Piano, Music Theory, and Aural Skills courses to students of ages 6 to 30+

AUB Robotics Club (AUBRC), Member | *Beirut, Lebanon*　　　　　　　　　　　10/2020 – 05/2024
- Assisted and participated in several workshops for ROS, Arduino, and Raspberry Pi

Build It Weekend 5.0 AUBRC x IEEE AUB Student Branch, Robotics Competition | *Beirut, Lebanon*　03/2023 – 04/2023
- Won 2nd place in a 48-hour robotics competition out of 10 teams, judged by AUB professors
- Designed and built a prototype lifeline rescue-bot with IoT control using ESP32

Diverse Volunteering | *Beirut, Lebanon*　　　　　　　　　　　　　　　　　12/2016 – 01/2020
- Provided food, aid and entertainment for elderly homes, childcare centers, and BETA Lebanon's dog shelter

SKILLS AND INTERESTS

Languages	Fluent in English, French and Arabic – Basic Korean (writing, reading, speaking)
Hard Skills	MS Office, LaTeX, GitHub, Python, PyTorch, C#, C++, ROS, ROS2, Gazebo, RViz, MATLAB, LabVIEW, PSpice
Soft Skills	Time Management, Communication, Problem-solving, Critical Thinking, Teamwork, Collaboration
Interests	Tennis, Ski, Piano, Robotics, Travel