

Gaspar J. Montoya

Las Vegas, NV | gaspar.montoya@unlv.edu | [Personal Portfolio Website](#) | [LinkedIn](#)

EDUCATION

University of Nevada, Las Vegas — Las Vegas, NV Expected Graduation: Spring 27'
Bachelor of Science in Computer Engineering
Minor in Data Science & Artificial Intelligence | Dean's List (Fall 2024)

ENGINEERING INTERESTS

Robotics and Autonomous Systems • Autonomous Vehicle Perception and Planning •
Learning-Enabled Perception • Computer Vision for Real-World, Unstructured Environments •
Multimodal Sensing and Sensor Fusion (Camera, Thermal, Multispectral, GPS)
• Data Collection and Curation for Perception Models

RESEARCH EXPERIENCE

Professor Venki Muthukumar | University of Nevada, Las Vegas, Las Vegas, NV

Research Assistant, April 2025 - Present

- Designed and built a three-camera autonomous UAV for wildfire research, including CAD design in SolidWorks, 3D-printed mounts, custom wiring, motor calibration, payload balancing, and full system integration.
- Integrated thermal and multispectral cameras, GPS, telemetry radios, and the flight controller to enable stable autonomous flight and real-time data collection in lab and field environments.

PROFESSIONAL EXPERIENCE

Computer Engineer Intern | NV Energy, Las Vegas, NV

Power Generation Team, May 2024 - August 2024

- Developed a Management of Change (MOC) application using Python and Power Apps to digitize approval workflows across 13 power plants, reducing processing time for change requests by over 40%.
- Integrated Power Fx logic and SharePoint automation to track engineering modifications in real time, improving operational transparency and cutting manual data entry by 25%.

TEACHING EXPERIENCE

Engineering Peer Mentor | UNLV Howard R. Hughes College of Engineering

Engineering 101 (Professor Matthew Pusko), August 2024 - Present

- Led weekly engineering labs and mentored 40 first-year students through hands-on design projects, providing instruction in engineering communication, teamwork, and technical problem-solving.

LEADERSHIP ROLES

Howard R. Hughes Student Senator | Consolidated Student of UNLV

- Represent over 4,000 engineering students on the University Initiatives and Internal Affairs Committees; advocate for expanded undergraduate research access and funding, with a focus on underrepresented and international students.

HONORS & AWARDS

UNLV Pipe-UP (NSF EPSCoR RII-BEC Cohort) | UNLV Undergraduate Research

- Selected as one of ~20 students for a competitive 4-year NSF-funded program supporting undergraduate research training, graduate school preparation, and STEM mentorship.

UNLV Tuition Scholarship & Books Scholarship — merit-based, 2022–Present

- Received merit-based scholarship covering tuition in recognition of strong academic performance (2022–Present).

Dean's List Honoree | University of Nevada, Las Vegas

- Recognized for maintaining a top academic standing within the College of Engineering (Fall 2024).

PRESENTATIONS & CONFERENCES

Annual Harnessing the Data Revolution for Fire Science (HDRFS) Meeting

University of Nevada, Las Vegas — April 1–2, 2026

- Presented UAV-based wildfire monitoring research at the annual NSF HDRFS project meeting, featuring oral presentations and a student poster session. Shared findings alongside PhD and postdoctoral researchers, with the drone system on display to give attendees a hands-on look at the hardware.

UNLV Undergraduate Research Symposium University of Nevada, Las Vegas — Spring 2026

- Presented wildfire UAV research at UNLV's campus-wide undergraduate research symposium, co-sponsored by the Sullivan Center for Academic Enrichment and the Office of Undergraduate Research. Shared work through a poster presentation with faculty, researchers, and peers across disciplines.

SKILLS

- **Robotics & Autonomy:** ROS2 Humble, slam_toolbox, CycloneDDS, LiDAR integration (Livox Mid-360), PX4 flight stack, sensor fusion (thermal, multispectral, GPS)
- **Programming:** Python (NumPy, OpenCV, YOLO, Pandas), C, C++, HTML/CSS
- **Hardware & Fabrication:** UAV assembly and integration, soldering, custom wiring, SolidWorks CAD, 3D printing, embedded systems (Arduino, RISC-V)
- **Tools & Platforms:** Linux/Ubuntu, Git
- **Languages:** English (Native), Spanish (Native)

REFERENCES

Sarah Harris, Ph.D.

Professor of Computer Engineering
Howard R. Hughes College of Engineering
University of Nevada, Las Vegas
702-895-4518
sarah.harris@unlv.edu

Venki Muthukumar, Ph.D.

Professor of Electrical Engineering
Howard R. Hughes College of Engineering
University of Nevada, Las Vegas
702-774-3421
venkatesan.muthukumar@unlv.edu

Matthew Pusko, Ph.D.

Professor of Physics & Mechanical Engineering
Howard R. Hughes College of Engineering
University of Nevada, Las Vegas
702-895-5826
matthew.pusko@unlv.edu