

# JANGARA BLISS

(423) 759-4044 | Durango, CO | jangarabliss@gmail.com | linkedin.com/in/jangarabliss | github.com/Janga786

## EDUCATION

### Fort Lewis College

Aug 2022 – May 2027

B.S. Computer Engineering, Minors in Mathematics & Business Administration | GPA: 3.6

## RESEARCH EXPERIENCE

### Research Assistant — Humanoid Robotics | Fort Lewis College

May 2026 – Present

Advisor: Dr. Yiyang Li | Full-time | Independent undergraduate research

- Deployed NaVILA (RSS 2025 Vision-Language-Action model, 8B parameters) on the Booster K1 humanoid robot for vision-guided autonomous navigation. Built a 3-machine relay architecture (RTX 5090 running VLM inference at ~330ms ↔ relay with Booster SDK velocity control ↔ robot camera streaming) enabling the K1 to walk to visual targets from natural language commands with zero teleoperation.
- Added K1 as the third robot platform to NaVILA's VLN-CE-Isaac benchmark (after Unitree Go2 and H1). Set up Isaac Sim 4.1 on Blackwell GPU (3 CUDA compatibility patches), integrated Matterport3D photorealistic indoor scenes, and evaluated 200+ navigation episodes across 11 environments.
- Trained a vision-based RL locomotion policy in Isaac Lab using PPO with RayCaster height-scan observations for terrain-aware walking. Diagnosed a benchmark termination mismatch (training allowed 85° tilt recovery, eval killed at 45°) that was truncating 61% of episodes — fix tripled K1 path length from 0.81m to 2.58m.
- Conducted paper-conformance audit against 6 research papers (NaVILA, LeVERB, Humanoid-VLA, OpenVLA, RT-2, LLaVA), identified and fixed 3 implementation bugs, and wrote 85 automated tests for spec conformance. Discovered and documented an undocumented K1 camera fix unlocking full-rate capture (~10fps from 0.67fps).

### Research Assistant — NASA Colorado Robotics Challenge | Fort Lewis College

Oct 2025 – Apr 2026

Advisor: Dr. Yiyang Li | Team of 4

- Led a team building an autonomous 18-DoF hexapod rover for the NASA Colorado Robotics Challenge at Great Sand Dunes National Park.
- Designed the complete electrical system from scratch: Arduino Mega, ICM-20948 9-DoF IMU, bump sensors, LiPo + SBEC power, and a 3-bit binary command interface selecting between 8 autonomous behaviors.
- Built autonomous firmware with closed-loop heading hold (P-controller fusing gyro/magnetometer), gyro bias auto-calibration, and bump-avoidance state machine.
- Developed a Python Kuramoto coupled-oscillator locomotion simulator where tripod, wave, and ripple gaits emerge as stable attractors of the same dynamical system. Open-sourced with 34-test CI suite.

### Research Assistant — AI & Robotics | Fort Lewis College

May 2025 – Sep 2025

Advisor: Dr. Kevin Wedeward | Solo project

- Developed a robotic platform for autonomous solar panel inspection. Revived two non-functional legacy industrial robots (Sawyer and Baxter) with zero vendor support, diagnosing hardware failures through controller disassembly and firmware reconfiguration.
- Trained a YOLOv8 model for thermal anomaly detection: 1,682 training images, 98% accuracy (mAP@0.5 = 0.985). Engineered a synthetic data pipeline using Blender and Python.
- Built complete ROS Noetic workstation with MoveIt and Gazebo for motion planning and simulation.

### Research Assistant — AI & Software Development | Fort Lewis College

Aug 2024 – Oct 2025

Advisor: Dr. Matthew Welz

- Deployed a Power Apps database for 60+ daily users at the FLC radio station. Developed a Python vector embedding model for artist name resolution and prototyped a Neo4j graph database with AI agents translating natural language to Cypher queries.

## TECHNICAL SKILLS

**Languages:** Python, C++, Verilog, JavaScript, SQL, Bash

**ML / AI:** PyTorch, Reinforcement Learning (PPO), YOLOv8, Computer Vision, NaVILA/OpenVLA, NLP, Synthetic Data Generation

**Robotics:** NVIDIA Isaac Sim/Lab, MuJoCo, ROS/ROS2, MoveIt, Gazebo, Inverse Kinematics, Motion Planning

**Hardware:** Arduino, FPGA (Vivado), PCB Design (Eagle), Embedded Systems, 3D Printing, SolidWorks

**Tools:** Git, Docker, AWS, Linux (Ubuntu), ONNX, FastDDS, Neo4j

## AWARDS & HONORS

- P&E Research Symposium 2nd Place (Sep 2025) — Inspection of PV Hotspots using a Robotic Arm
- Goldman Sachs Emerging Leaders Series (Feb 2024) — Competitive national program at NYC headquarters
- Katz School of Business Leadership Award (Apr 2024) — Signed by FLC President and Dean of Business
- New RSO of the Year 2023–24 — EVA, co-founded and led as President

## LEADERSHIP & SERVICE

- Student Representative, Strategic Implementation Committee — One of four students selected to serve alongside the FLC President, Board of Trustees, and deans to guide the 2025–2030 Strategic Plan.
- President & Co-Founder, Entrepreneurial Ventures Association — Led 8-person team, organized pitch competitions allocating \$1,500 in micro-grants, brought NASA Venture Program to campus. Won New RSO of the Year.