ADNAN BAIG

Robotics Software Engineer | San Jose, CA
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TECHNICAL SKILLS

Programming: Python, TypeScript, JavaScript, SQL
Robotics & ML: Teleoperation, imitation learning, LeRobot, ACT, PyTorch, TensorFlow, MuJoCo, MCAP, HIL testing
Embedded & Hardware: Embedded Linux, NVIDIA Jetson AGX Thor/Orin, EtherCAT, CAN-FD, GMSL/Argus, RealSense, actuator diagnostics and calibration
Software & Infrastructure: React, Next.js, FastAPI, Node.js, REST APIs, protobuf/ConnectRPC, WebRTC, systemd, Git, OIDC, certificate authentication

PROFESSIONAL EXPERIENCE

Sigma Design @ Meta Reality Labs | Burlingame, CA | Dec 2025–Present

Robotics Software Engineer | Aug 2026–Present

- Led development of the production control application for a wearable UMI humanoid teleoperation suit, owning implementation through deployment and enabling suit operation, readiness checks, and OTA updates.
- Built workflows for MCAP demonstration recording, episode tracking, and storage/upload status to support humanoid fine-manipulation training data collection.
- Implemented tactile-sensor and encoder readiness diagnostics to block recording when pre-session hardware checks fail.
- Shipped teleoperation-console features including live network-latency visualization, log annotation, VR/keyboard shortcuts, and safer exit/reset workflows.
- Developed a Next.js/React fleet dashboard combining robot inventory, heartbeat/build telemetry, episodes, Jira repairs, and technician workloads; implemented OIDC SSO, certificate-authenticated egress, and 296 automated tests.
- Automated daily fleet-health reporting with Python/systemd, aggregating live Jira issues, deduplicating tickets, and tracking active and blocked repairs.
- Diagnosed and resolved 500+ Jira-tracked engineering issues across six humanoid and robotic manipulation programs, troubleshooting hardware, firmware, embedded systems, and teleoperation software.

Figure AI | Humanoid Robot Pilot | San Jose, CA | Sep 2025–Nov 2025

- Operated humanoid robots with teleoperation, Foxglove, and Manus to collect training demonstrations; monitored actuator health, runtime faults, and system logs.
- Annotated and quality-checked demonstration data with engineering teams to support model and policy updates.

Vizualty LLC | Founder | Sacramento, CA | May 2019–Present

- Scoped, developed, and delivered web and media projects for client businesses.

Cyber Proud Inc. / CalSTRS | Cybersecurity Intern | Sacramento, CA | 2023–2024

- Performed vulnerability scans, network-traffic analysis, compliance documentation, and workflow digitization.

RESEARCH & PROJECTS

SO-101 Teleoperation Research | Independent Research | 2026–Present

- Investigating VR (Meta Quest/BEAVR) versus leader-arm teleoperation on SO-101 arms and effects on demonstration quality and downstream ACT policy performance.
- Built demonstration-capture, LeRobot dataset, policy-training/evaluation, and MuJoCo simulation workflows; trained ACT and MLP behavior-cloning policies.
- Designed fail-closed motor control with exclusive bus leases, deadman/watchdog supervision, latched stops requiring manual clearance, and HIL safety gates.

WRAM — Wildfire Risk Assessment Model | ACM AI Hackathon, 2nd Place

- Trained a TensorFlow U-Net on 12-band Sentinel-2 imagery to identify wildfire-risk zones; validated against Cal Fire ground-truth data.

EDUCATION

California State University, Sacramento | B.S. Computer Science | May 2025
National Cyber League | Global Top 5% (2024)