Itay Turgeman

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Summary

Cross-disciplinary Robotics Systems Engineer with hands-on experience across electrical, mechanical, and software domains. Skilled in deploying perception models, embedded diagnostics, hardware repair, and prototyping workflows. Proven track record improving fleet reliability, reducing downtime, and collaborating with R&D and operations to deliver scalable, field-ready solutions.

Experience

Robotics Systems Engineer — *Coco Robotics* (Jan 2024 – Present)

- Developed a neural-network camera scratch detection system using Python, OpenCV, Keras, and TensorFlow to minimize sensor disruptions.
- Generated deployment-based reports and insights that influenced hardware and software improvements.
- Collaborated with electrical and mechanical engineers to validate hardware changes and support system optimization.
- Managed FDM and SLS 3D printing operations to support rapid prototyping and hardware development.
- Designed and built a custom ESP32 diagnostic enclosure (CAD in Onshape) with LCD/buttons, saving ~40 minutes per robot build.
- Troubleshot and repaired robot issues: sensors, batteries, wiring, CAN bus errors, and mechanical faults.
- Deployed YOLO/SSD models onboard robots, tuning thresholds and optimizing inference for field reliability.
- Defined fleet reliability KPIs and built monitoring dashboards to track uptime, MTTR, and failure rates.

Data Analyst Intern — Ayna (Apr 2023 – Sep 2023)

- Aggregated and analyzed data from Shopify, Airtable, and Google Analytics to produce weekly/monthly reports.
- Delivered insights on CAC, churn, CLV, and forecasts to executive leadership, guiding strategy.
- Built automated pipelines and Tableau dashboards to scale analytics workflows.

Projects

- Project Sentry: Raspberry Pi system with TensorFlow SSD MobileNet V2 + OpenCV for real-time squirrel detection/deterrence. Controlled servos and spray mechanisms, Flask dashboard, SSH access.
- Cloud Personal Website: AWS S3-hosted site with DynamoDB + Lambda visitor counter, Prometheus + Grafana dashboards for traffic visualization.

Education

Loyola Marymount University — B.S. Information Systems & Business Analytics, Cum Laude (Sep 2020 – Dec 2023)

Technical Skills

- Languages: Python (Pandas, NumPy, TensorFlow, Keras, OpenCV), SQL, ROS
- Hardware: ESP32, Raspberry Pi, PCBs, soldering, RPi.GPIO, I2C/SPI
- Diagnostics: journalctl/systemd, CAN bus, ROS topics/services, log analysis
- Prototyping: FDM & SLS 3D printing, CAD (Onshape)
- Cloud & DevOps: AWS (S3, Lambda, DynamoDB), Docker, GitHub Actions, Prometheus, Grafana
- Visualization: Tableau, Excel, Matplotlib, Jupyter
- Collaboration: GitHub, JIRA, Linux, SSH

Languages

- English (fluent)
- Hebrew (fluent)