

YUVAL GRIMBERG

R&D Software Engineer | Algorithms & Applied AI

Tel Aviv, Israel | [+972 54 434 5316](tel:+972544345316) | yuval.grimberg@gmail.com

[LinkedIn](#) | [GitHub](#) | [Portfolio](#)

SUMMARY

Mechanical engineering graduate developing Python software for autonomous systems and applied AI. Experience spans planning and control algorithms, distributed backends, computer vision experiments and diagnostic tools.

TECHNICAL SKILLS

Development: Python, ROS 2, Linux, Git, multithreading, automated testing

Algorithms: Path planning, Pure Pursuit, Stanley, PID, vehicle dynamics, MATLAB

Applied AI: 3D reconstruction, VGGT, LangGraph, LLM APIs, FastAPI

ENGINEERING EXPERIENCE

Software Developer | UGV Defense Project | Jul-Sep 2026 (full-time)

- Developed a shared Python backend for operator interfaces, modularizing command handling, telemetry and diagnostics from a legacy Pygame application.
- Designed logging across four components and thread-timing diagnostics to trace stalled commands, communication delays and failsafe activation in a ROS 2 stack. Nvidia Jetson hardware
- Implemented watchdog and heartbeat handling, fault diagnostics and recovery procedures after tracing system failures to an overheating steering controller.
- Managed RTK implementation and addressed heading and coordinate-frame discrepancies through calibration and field checks.
- Contributed control interfaces and recommendations for future autonomy, clock synchronization and Git-based development.

Planning & Control Lead | BGR Formula Student | 2023-2025 (student team) | [Project](#) | [Article](#)

- Led a five-developer planning and control team, sharing implementation of a cone-based navigation pipeline using an adapted planner, Pure Pursuit, Stanley steering and curvature-based PID speed control.
- Co-developed ego-centric navigation for operation without a working IMU; contributed to approximately 50 meters of autonomous driving on the physical car.
- Validated planning and control in simulation and through simulation-driven tests of physical steering and wheel actuators.
- Adapted an existing Formula Student planner to connect cone detections with a B-spline centerline, curvature estimates and steering and speed commands.

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SELECTED PROJECTS

FPV Visual Geometry Lab | Computer vision | 2026 | [Demo](#) | [Code](#)

- Ran VGGT reconstruction on a public FPV dataset and developed an experimental workflow incorporating additional reconstruction methods, trajectory smoothing and a WebGL viewer.
- Published 13 detailed scene packages with method comparisons and explicit reconstruction and evaluation status.

GitHub Repo Summarizer | LLM application | 2026 | [Project](#)

- Built a FastAPI service and CLI for LLM-based repository summaries, with deterministic file selection, context sharding, JSON validation, provider fallbacks and mocked API tests.

Daily Movers Agent | AI workflow | 2026 | [Project](#)

- Built a four-stage LangGraph workflow combining market data and news into traceable HTML and Excel reports, with optional LLM analysis, deterministic fallbacks and automated tests.

EDUCATION

B.Sc. Mechanical Engineering | Ben-Gurion University of the Negev | 2020-2025

AI Developers Program | BGU AI Institute | 110 hours, certificate completed 2025

ADDITIONAL EXPERIENCE

SpaceLab Mentor | Ramon Foundation / Horizon Space | 2022-2024

SpaceIL Educator | 2018-2019

Intern | SCD Semiconductor Devices | 2013-2014