

FRANCISCO ZACARIAS

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ABOUT ME

Passionate about low level programming, engines, graphics and optimizations. I have a problem-solving mentality, wide range of technical skills and the ability to tackle complex and abstract problems. I have professional experience in low level systems, research & development and tools programming for game development.

EXPERIENCE

Tools Programmer at GRIP Studios

February.2024 – Present.

GRIP Studios is a developer of video games.

Prague, Czech Republic

- UE5: Tools programming for an unannounced title (1). Worked on a city builder plugin for UE5 and alongside editor utilities.
- UE5: Gameplay programming for an unannounced title (2). Worked on a QTE (quick time event) system.

Tools Programmer at Toadman Interactive

November.2023 – January.2024

Toadman is an international game developer company for PC and consoles.

Berlin, Germany

- Built a Python backend integrating Jenkins, Perforce, and Unreal Engine with Slack for automated notifications and centralized access.
- Implemented an Unreal Engine bug reporting tool with Jira integration, capturing screenshots, level data, coordinates, and Perforce user info.
- Designed a custom Unreal Engine crash reporting system forwarding minidumps and PDBs to backend, with Slack integration and crash call stack parsing.
- Integrated ImGui into Unreal Engine with reflection-based debug UI support for UPROPERTY and UFUNCTION metadata.

Software Engineer at Beyond Vision

August.2021 – October.2023.

Beyond Vision is a R&D startup drone developer and manufacturer

Lisbon, Portugal

- Developed C firmware for drone systems including data logging, motherboard routines, retracting gear, and fast MAVLink communication.
- Implemented and debugged Linux kernel drivers for custom hardware.
- Built ROS (C++/Python) modules for real-time flight data processing and sensor integration.
- Worked across drone tech stack (MAVLink, PX4, Ardupilot), web and Android development, databases, and multimedia (Janus, GStreamer)

PERSONAL PROJECTS

Immediate Mode UI in C | [GitHub Repository](#)

- Prototype of an immediate mode UI in C with a node-based quad tree. Each node supports optional text and attachable functionality, allowing widgets to be built like scripts.

OpenGL and C 3D Renderer | [GitHub Repository](#)

- 3D prototype engine in C/OpenGL from scratch with custom memory allocator, linear math, file I/O, and string types. Unity-build enabled, minimal dependencies.

C Code Generator | [GitHub Repository](#)

- Table-driven code generation tool in C for structured text and data structures. Replaces compile time code generation.

Algorithm Visualizer - JavaFX | [GitHub Repository](#)

- Interactive JavaFX tool to visualize pathfinding and maze generation algorithms on a 2D grid.

TECHNICAL SKILLS

Languages: C, C++, Python **Tools:** Windows, Linux, Git, VisualStudio/RemedyBG, Linear Math **Interests:** Systems engineering. Computer graphics (OpenGL). Game engines. Performance oriented development.