

Ioannis Makris

Software Engineer & Consultant

Location: Berlin, Germany

Email: info@imakris.de

Phone: +49 157 5360 1922



Summary

Experienced software engineer and independent consultant with 20 years of international experience in developing software solutions. Specializes in complete software stacks for scientific instrumentation, embedded systems, graphics applications, and high-performance computing. Proven track record in independently managing software projects from concept to deployment, collaborating closely with engineers and scientists.

Core Skills

- **Software Architecture:** System design emphasizing maintainability, scalability, and clear structure.
- **Cross-platform UI & Application Development:** Expert in modern application design and user interface implementation using C++, Qt, and QML (Windows, Linux, embedded platforms).
- **Embedded & Hardware Integration:** Development of software interfacing directly with specialized hardware components.
- **Parallel & Multithreaded Programming:** Expertise in developing software with parallel execution and efficient concurrency management.
- **Computer Graphics & GPU Programming:** Real-time rendering, GPU-accelerated visualization, and shader development.
- **Programming Languages:** Expert-level knowledge of modern C++ standards, Python, Qt/QML.

Selected Freelance Projects & Consulting (2015 – Present)

X-Ray Spectroscopy Software (2022 – Present, HP Spectroscopy GmbH)

Independently developed the full software stack (hardware communication, middleware, user interface with Qt/QML) for an X-ray spectrometer. The product is commercially available.

Laser Eye Surgery Device Interface (2021, Alcon Deutschland GmbH)

Refactored and modernized a legacy Qt GUI to support multiple languages and improve maintainability.

E-Learning Authoring Tool (2020 - 2024, IMC AG)

Maintained and modernized an existing e-learning application, ensuring compatibility with current operating systems and adding requested features.

Industrial Warehouse Middleware (2020, BIKAR Metalle GmbH)

Developed middleware software integrating industrial protocols, focusing on error handling and reliability.

Ultrasonic Sensor Management Software (2018 – 2022, Sonotec GmbH)

Delivered independently a comprehensive software suite, from hardware-level communication to GPU-accelerated data visualization.

Algorithmic Trading Visualization Plugin (2017 – Present, London-based hedge fund client)

Developed visualization tools integrated into proprietary trading software to visualize algorithmic trading processes.

Financial Software Modernization (2016 – 2018, Royal Bank of Scotland)

Led a small team in modernizing internal legacy systems, introducing microservices and improving reliability.

Static Analyzer for Trading Scripts (2015 – 2016, London-based hedge fund client)

Developed a static analysis tool for automated review of trading scripts, reducing runtime errors.

Employment History (2003 – 2015)**QNX Software Systems (BlackBerry), Munich (2012 – 2015)**

Software Engineer

Developed OpenGL ES drivers, GPU demo applications, and kernel components for QNX-based embedded systems.

Intel GmbH, Munich (with assignment at Intel Corp., Folsom) (2011 – 2012)

Graphics Software Engineer

Developed and optimized Linux graphics drivers; conducted performance benchmarks using OpenCL on Intel GPUs.

NVIDIA (Mental Images), Berlin (2008 – 2011)

Software Engineer

Developed OpenGL-based rendering software, GPU resource management systems, and a GLSL shader compiler backend.

Earlier Experience (2003 – 2008)

- **NCSR Demokritos, Greece:** Software development for video compression and facial recognition.
- **Digital Medics GmbH:** Developed a sketch-based radiology imaging application.
- **Track7Games:** Game engine software development.
- **Academic Research:** Projects on parallel information retrieval and computer vision.

Education

- M.Sc. Vision, Imaging & Virtual Environments, University College London (2006)
- M.Sc. High Performance Computing, University of Edinburgh (2005)
- B.Sc. Informatics, Technological Educational Institute of Athens (2004)