Pantelis Patsaoglou

Ioannina, Greece | linkedin.com/in/patsaoglou-pantelis/

EDUCATION

University of Ioannina | *Department of Computer Science & Computer Engineering* **10/2020 – 07/2025**

- ***Integrated Master's Diploma with specialty in Electronics Engineering***
- **Diploma Grade:** *7.33/10*
- **Thesis Subject:**
  - *Study and Design of basic stages in Phase-Locked Loop (PLL)*
    - LC-VCO, Charge Pumps, Rail-to-Rail Operational Amplifiers, Frequency Dividers, Digital Design, Analog Design, Cadence Suite, Phase Noise Analysis, PVT Variations
- **Interests:**
  - Analog/Digital Design (Integrated Circuits, Hardware Design)
  - Hardware Applications (Embedded Hardware, IoT)
  - Computer Systems (Embedded Systems, Operating Systems)

Languages:

- **Greek** *(Bilingual)*
- **English** *(B2 Level FCE)*

SKILLS

- **IC/Hardware Design tools:** Cadence Virtuoso/Spectre, Altium Designer, Kicad, LT-Spice, VHDL, Verilog, Verilog-A, Quartus/ModelSim
- **Hardware design:** Analog/Digital and Mixed Signal hardware applications (Multilayer PCBs, MCU/MPU, DDR, Low Power/Energy Harvesting designs)
- **Firmware development:** Proficiency in C/C++ firmware programming (STM32 HAL, ESP-32 IDF, RTOS), experience with kernel module development, peripheral driver development, familiarity with RISC-V Architecture/Assembly
- **Requirements Analysis:** Meeting design specifications, component selection, reading hardware documentation (Datasheets/Schematics)
- **In lab experience:** Oscilloscopes, Power Supplies, SMT microsoldering, hardware prototyping and debugging
- **Design limitations/issues awareness:** Manufacturing issues in Circuit/PCB development and layout challenges (EMC, Power/Signal Integrity)

- **IoT Stacks/Architectures:** LoraWAN, MQTT, ChirpStack
- **Project Version Control tools:** Git, GitHub, GitLab
- **Software Development:** Octave, Python, Java, MySQL (Spring Boot, FastAPI)

EXPERIENCE

IQSoft | Hardware Design/Firmware Development *Ioannina, Greece* | **07/2023 – 09/2023** *(Full-time)* | **10/2023 – 01/2024** *(Part-time)*

- I was assigned the re-design of the Terraweb Control Box Motherboard *(TCB V7)*:
  - Requirements meetup (USB Communication with the TCB PC, external power control, remote control via a GSM module, SD file system setup for sensor, voltage, TCB events logging and user option profiles)
  - PCB Layout Stages (went through different hardware solutions/versions to meet requirements and reliable functionality)
  - Firmware Development (main functionality, peripheral drivers and USB Serial Communication API, working along with the software team to create a Web application that uses the API and offers a visual interface for TCB configuration to the End User)

ACADEMIC ACTIVITIES

- **Lab Assistance:**
  - Basic Electronics Course Lab (2023-2024-2025)
  - Analog Electronics Design (2024)

PROFESSIONAL ACTIVITIES

- **The Things Conference** | IoT Event *Amsterdam, The Netherlands* | **2023 – 2025**
- **Bosch Spring School Event** *Reutlingen, Germany* | **06/03 – 07/03/2024**
  AI applications on Semiconductor Manufacturing (selected among 50 individuals)
- **PAnhellenic Conference on Electronics and Telecommunications** *Thessaloniki, Greece* | **2024**
- **Open Source Summit** | Linux Foundation *Vienna, Austria* | **16/10 – 18/10/2024**
- **TechFuse Hackathon 2025** | IoT Environmental Monitoring Solution *Ioannina, Greece* | **15/03/2025**

EXTERNAL LINKS

- **Website:** dreamxlabs.gr (Portfolio)
- **GitHub:** github.com/patsaoglou
- **Linkedin:** linkedin.com/in/patsaoglou-pantelis/

REFERENCES

- **Available** – *Upon Request*