Eduard Tiron Martinez

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📑 etiron.netlify.app (portfolio)   in linkedin.com/in/eduardtiron   ⌗ github.com/tyronnosaurus

WORK EXPERIENCE

Software Engineer (Freelance)   01/2024 – Present   *Zurich, Switzerland*

- I currently lead the development of software for industrial EVs valued at >1M€ per unit, and for a line of EV batteries. The software controls every aspect of the vehicle (user interface, traction, refrigeration, alarms…).

Senior Software Engineer @ [Eurecat](#)   01/2021 – 01/2024 (3 years)   *Barcelona, Spain*
Eurecat is an R&D center offering process modernization services for other companies.

- Brought in new clients and grants valued at >100000€/year by taking projects no other department felt comfortable accepting.
- Led the development of many projects from planning phase to shipping:
    Computer vision application for detection of defects in industrial knitting machines with deep learning | Python plugin for FEM analysis in 3D printing software Cura | Cloud-connected tractor with smart fertilization via satellite data | IoT system for predictive maintenance of a global fleet of threading machines | Firmware for EV conversion of a mining vehicle | Repair of undocumented Linux based sensor for injection molding

Software Engineer @ [Ultrasion](#)   11/2017 – 01/2021 (3 years)   *Barcelona, Spain*
Ultrasion designs ultrasound-based technology for fabrication of medical parts.

- Rewrote entire codebase from previous 7 years (21000 lines of code, 30+ client customizations), heavily reduced technical debt that was holding the company back.
- Implemented all new requested functionalities as the new technology kept evolving, while enhancing client's UX through improvement of the UI design and simplification of all machine functions.
- Saved the company 10000s of € by remaking the website from scratch and solving all IT issues in the office ASAP.
- Solved 100% of clients' support requests that were derived to me when all other coworkers could not solve them.
- Reduced my workload through process improvements and automation to the point that, by 2021, I could work nearly full-time on projects for the parent company (Eurecat), while still meeting all the programming needs at Ultrasion until 2024.

IT Security Auditor @ [PwC](#)   09/2015 – 10/2016 (1 year)   *Barcelona, Spain*
PwC is one of the Big Four accounting firms, and the 2nd largest provider of professional services.

- Interviewed clients and performed work to ensure the correct configuration of many different systems:
  - Application security audits (SAP, clients' in-house software…).
  - Database security audits (Oracle, DB2, MySQL…).
  - OS security audits (Windows/Active Directory, Unix, AS400…).
  - Financial reporting processes reviews & tests on General Ledger for financial year close.
  - Other data services (data quality reviews, data migration assurance…).

Internships
Engineering & IT assistant @ Novatec Enginyers	**2015 (6 months)**	*Tortosa, Spain*
Control systems assistant @ Plásticos Castellá	**2012 (3 months)**	*Tortosa, Spain*
Maintenance department assistant @ Pentrilo Sofegar	**2007 (3 months)**	*Tortosa, Spain*

EDUCATION

- **UPC (Polytechnic University of Catalonia)** **2015**   *Barcelona, Spain*
  MSc in Industrial Engineering, Automation
  (included 1 elective class in Computer Vision)
- **UPC BarcelonaTech** **2017**   *Barcelona, Spain*
  MSc in Mechatronics Engineering

SKILLS

- *WebDev*: React.js, Next.js, Tailwind CSS, JavaScript, TypeScript, HTML, CSS, Bootstrap, WordPress, Full Stack, Frontend, Backend
- *Development*: Python, C, C++, C#, .NET, Qt, Git, Subversion (SVN), Computer Vision, Unity
- *Data Science*: Pandas, Matplotlib, Machine learning, scikit-learn, Deep learning, Tensorflow, CNN, SQL, Node-RED, MQTT
- *DevOps*: AWS, Docker, Kubernetes, Linux
- *Mechatronics*: PLCs, B&R, Codesys, Structured Text (ST), Electric Vehicles (EVs), Ladder, Turck, Panasonic, FPWIN, HMWIN, TX Visu Pro, IFM, Beijer, iX Developer, CAN, J1939, ISOBUS, CAD, SolidWorks, 3D printing
- *Electronics*: Embedded development, Firmware, PCB design, Altium Designer, KiCAD, Arduino

PROJECTS

- Computer vision application for detection of defects in industrial knitting machines with deep learning (using Python, TensorFlow, Convolutional Neural Networks, Autoencoders).
- Personal apps for file management: resizing, automatic tagging, automatic organization with machine learning (using Python, Qt, scikit-learn).
- Firmware of industrial machinery: EVs valued at 1M€/unit, swappable EV batteries, disruptive ultrasonic molding machines, IoT telemetrics software…
- Firmware for many hobby electronic products: modular domestic alarm system, 7-segment clock, "magic" mechatronics eye, remote controlled cars, airsoft Claymore with motion detection, capacitance/EMF/motion detectors... (using C++, Arduino, Embedded development, Altium, KiCAD, 3D printing…).
- Many WebDev projects in React (chat to ask natural language questions to PDFs, SaaS to compare annual reports of companies, repository of hiking & climbing routes for my father, my portfolio…) and in WordPress (Ultrasion's website, an airsoft DIY blog…).
- 3D projects: digital twin for Ultrasion's S2G machine, videogame prototype with deformable terrain using Marching Cubes algorithm, Python application for 3D visualization of stress study results.

Projects with descriptions, pictures, and skill filters
available at etiron.netlify.app.

LANGUAGES, CERTIFICATIONS

- **Languages:**
  - English C2, Certificate of Proficiency (CPE)
  - German A1
  - Spanish (native)
  - Catalan (native)
- **Certifications:**
  - CKA (Certified Kubernetes Administrator)
  - CKAD (Certified Kubernetes Application Developer)
  - IBM Data Analyst
  - IBM Data Scientist
  - CAPM (Certified Associate in Project Management)