

Ege Kaya

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SUMMARY

Computer Engineer and incoming M.Sc. candidate in Computer Science (Artificial Intelligence) at KU Leuven. Research Assistant under IEEE Fellow Prof. Paolo Montuschi, with experience in AI systems, production-grade full-stack development, and embedded firmware engineering.

EXPERIENCE

Research Assistant – Artificial Intelligence 2026 – Present
Politecnico di Torino – Prof. Paolo Montuschi (IEEE Fellow, Vice Rector)

- Designing and implementing machine learning models to analyze and predict student academic performance.
- Building scalable data pipelines and evaluation frameworks for large educational datasets.
- Designing and deploying AI-based class support systems integrated within university infrastructure.

Front-End Developer Intern Sep 2025 – Feb 2026
Parma Calcio 1913

- Built and deployed 20+ production full-stack features (React, TypeScript) used by 50+ staff, reducing operational workflow time by 50%.
- Integrated AWS S3, CDN delivery, and real-time data pipelines; achieved Lighthouse performance scores consistently above 95.

Full-Stack & Embedded Developer Feb 2025 – Feb 2026
PoliTO Rocket Team

- Developed internal web platforms for 150+ members, automating 1,000+ daily operations and reducing administrative overhead by 95%.
- Implemented STM32 flight firmware in C/C++ under real-time constraints; built drivers, watchdog systems, and performed SWD debugging.

Database Developer Feb 2025 – Jul 2025
Team DigiTwin

- Designed and optimized PostgreSQL systems ingesting 50,000+ sensor readings/day; improved query performance by 40%.

PROJECTS & RESEARCH

GitSimulator — 3rd Place Winner, GitKraken Game Jam 2025 Hackathon
Python, CI/CD, Software Architecture

- Implemented a Git simulation engine supporting rebase, merge, reset, and cherry-pick with visual commit graphs and conflict prediction.
- Designed modular architecture with 135+ automated tests and CI/CD; published as open-source package on PyPI.

CoreMetric — macOS System Monitor App
Swift, SwiftUI, Core ML

- Built privacy-first macOS monitoring app using autoencoder-based anomaly detection optimized for Apple Neural Engine (1% CPU overhead).

Evaluating the Pedagogical and Cognitive Impacts of LLMs on Engineering Education — Research Paper
Politecnico di Torino - In collaboration with Prof. Paolo Montuschi

- Co-authored research on cognitive and pedagogical impacts of LLM-assisted instruction; co-delivered university lecture on Computer Architecture.

EDUCATION

M.Sc. in Computer Science — Artificial Intelligence Specialisation 2026 – 2028
KU Leuven
Programme Scholarship (70% Tuition Waiver; awarded to 10 students across the programme)

B.Sc. in Computer Engineering 2023 – 2026
Politecnico di Torino
GPA: 27/30 Full Merit Scholarship (Tuition Exemption)

SKILLS

Languages: Python, C/C++, Java, TypeScript, SQL, Swift, Go, Rust

Frameworks & Tools: React, Next.js, Node.js, Spring Boot, PostgreSQL, AWS, Docker, Git, PyTorch, MATLAB

Systems: Linux, Embedded Systems, STM32, CI/CD