

GKERALNTO BALLA

MENG ELECTRICAL & COMPUTER ENGINEERING

GKERALNTOBALLA@OUTLOOK.COM
[WWW.LINKEDIN.COM/IN/GKERALNTO/](https://www.linkedin.com/in/gkeralnito/)
THESSALONIKI, GREECE

SKILLS & ABILITIES

Good understanding of engineering concepts, familiarity with electronics, wireless communications and high frequency theory and applications. Ability to utilize coding to assist the engineering process. Familiarity with a variety of engineering tools and software. Strong social skills that enable teamwork and communication.

Experience in: Matlab, Python, C/C++, Java, Autodesk Fusion, Altium Designer, Microcontrollers, Spice Simulations, Antennas, RF Design.

EXPERIENCE

November 2024- July 2026

Undergraduate Researcher

WCIP, Aristotle University of Thessaloniki, Greece

- Research on the application of the Orthogonal Time Frequency Space waveform in Pinching Antenna Systems as part of my Master's thesis
- Studied OTFS PAPR and proposed the Constant Envelope OTFS technique for PAPR mitigation

Skills: Wireless Communications, Orthogonal Time Frequency Space Modulation, Waveform Design, Matlab Simulations

November 2024- November 2025

Avionics Engineer

ASAT, Thessaloniki, Greece

- Researched, proposed and building a custom rocket telemetry system that aims to provide a stable wireless connection with a data rate of 100kbps at 20km distance.
- Smaller projects involve electronics and microcontroller programming.

Skills: STM32 Microcontrollers, RF Electronics, RF design, PCB Design, Communication Protocols, Digital Communication Theory, Research, Teamwork

July 2024 – October 2024

Electrical Engineering Intern

Autak e.V., Aachen, Germany

- Worked on an electric, stair-climbing wheelchair. Designed and built the joystick controller and the electronics compartment.
- Implemented the electronics and realized the navigation and functional algorithms.

Skills: Autodesk Fusion, 3D Modeling, ESP32 Microcontrollers, Electronics, C/C++, Arduino IDE, Sensors, Teamwork, Multicultural Team

December 2021 – May 2022

Volunteer

EESTEC L.C. Thessaloniki, Thessaloniki, Greece

Volunteered in the student group EESTEC. Helped organize a workshop titled "Mobile App Development with Java"

Skills: Teamwork, organizational skills, volunteering

EDUCATION

September 2021- July 2026

MEng in Electrical and Computer Engineering

Aristotle University of Thessaloniki

Completed a five-year Integrated Master program in Electrical and Computer Engineering, in the Telecommunications Department. Good knowledge of various fields of ECE, including electronics, control systems, radio propagation theory, antennas, telecommunication systems and others. Completed my Master Thesis titled "OTFS Modulation in High Mobility Systems: PASS Application and PAPR Reduction" under the supervision of Prof. George K. Karagiannidis

Grade: 9.5/10

PERSONAL PROJECTS

Taken over several projects that apply engineering principles.

- **Cruise Control Enabled RC Car:** Based on an ESP32 and equipped with suitable sensors, the car incorporates control systems theory to maintain a constant speed.
- **Work Day Tracker:** A Windows application created with Python helps an employer keep track of the working days of their employees. The user can create a list of employees, a list of active working sites and register the working days of the employees. A PDF file that analyzes the working days for a given period of time can be generated.
- **Character Recognition Neural Network:** An attempt to create a neural network that reads car plates from scratch. The neural network was custom made based on meticulous research and guidance from online scientific literature.

ACHIEVEMENTS

International Physics Olympiad 2021 - Ranked 3rd in the national qualifiers and participated in the International Physics Olympiad in 2021.

EUSO2020- Ranked 2nd locally and 5th nationally in the 2020 EUSO competition.

COMMUNICATION

Remarkable verbal and written communication that enables positive social interactions. Fluency in several languages, including

- Greek: Native Language
- Albanian: Native Language
- English: Proficiency, C2 Certificate