

Ege Bilecen

Mechatronics Engineer

Dublin, Ireland

+353 85 189 4421

egebilecen@hotmail.com | [LinkedIn](#) | [Portfolio](#) | [GitHub](#)

I specialize in software development as a mechatronics engineer. I have done a variety of work in various fields, such as desktop programming, embedded programming, web development, and mobile development, using various programming languages. Because of this, I am quite quick to adapt to new projects and new programming languages.

EDUCATION

MEng in Electronic and Computer Engineering (IoT Major)

2023 – 2024

Master's Degree, Dublin City University

Dublin, Ireland

Grade: 1st Class Honours

Master's Project: Rust in the Linux Kernel

Modules:

- OOP with Embedded Systems
- Connected Embedded Systems
- Web Application Development
- Network Stack Implementation
- Security for IoT and Edge Networks
- Real-Time Digital Signal Processing
- Wireless/Mobile Communications
- Data Analysis and Machine Learning

Mechatronics Engineering

2017 – 2022

Bachelor's Degree, Erciyes University

Kayseri, Turkey

GPA: 3.13 / 4.00

SKILLS

- | | | |
|--------|----------|-------------------|
| • C | • Python | • Javascript |
| • C++ | • Rust | • HTML / CSS |
| • C# | • Lua | • PLC Programming |
| • Java | • PHP | |

KNOWLEDGE

- | | | |
|------------------------|--------------------|-------------------------|
| • Embedded Programming | • NodeJS | • Chrome Extension Dev. |
| • Socket Programming | • ReactJS | • Webview Apps |
| • Image Processing | • Xamarin | • Windows Forms Apps |
| • Cryptography | • Tauri | • Dear ImGui |
| • GNU/Linux | • ROS | • Qt |
| • Linux Kernel Dev. | • Selenium | • Git |
| • MySQL | • Spring Framework | |

PROFESSIONAL EXPERIENCE

bionluk

Freelance Software Developer

Oct 2018 – Oct 2022

Turkey

- Software development in C++, C#, Python, PHP, and Javascript based on customer requests.
- Desktop GUI application development using Qt, Dear ImGui, and Windows Forms.
- Website development using HTML/CSS, Javascript and PHP.
- Completed more than 70 commissions.

LANGUAGES

- **Turkish:** Native
- **English:** Professional Proficiency

PROJECTS & INDIVIDUAL WORK

GNU/Linux Kernel Development

- Misc. character device implementation in C and Rust.
- Kernel customization and compilation.

Home Automation with Mesh Network

- System design of the mesh network.
- Design of the communication infrastructure between nodes, server, and user.
- User application UI design and software development using Xamarin.
- Implementation of the UI features using C#.
- Embedded programming of microchips to communicate with sensors in C++.

Cryptography Algorithms

- Implementation of AES-128 ECB in Python.
- Implementation of PRESENT-80 in C, Rust, and Python.

RFC 6455 (The WebSocket Protocol)

- Implementation of RFC 6455 (The WebSocket Protocol) in Python.
TLS support is omitted.

Unmanned Aerial Vehicle (Drone)

Mar 2021 – Sep 2021

- Electrical system design of the UAV.
- Calculations to select appropriate parts of the UAV, such as batteries, propellers, and motors, based on requirements.

I worked on this project when I attended the TUBITAK International Unmanned Aerial Vehicle Competition 2021.

Unmanned Aerial Vehicle (Drone) & Model Satellite

Nov 2019 – Sep 2020

- Creating wrapper around the MAVLink protocol in Python for interacting with the UAV.
- Autonomous movement implementation of the UAV using the custom wrapper around the MAVLink protocol in Python.
- I2C and SPI sensor implementations in Python on an embedded GNU/Linux device.

I worked on this project when I attended the TUBITAK International Unmanned Aerial Vehicle Competition 2020 and the TUBITAK Model Satellite Competition 2020.

Unmanned Ground Vehicle

Feb 2019 – May 2020

- Telemetry implementation of the UGV in C#.
- Camera data transmission implementation of the UGV in C#.
- Implementation of image processing algorithms to track entities such as humans, objects, etc. in Python.