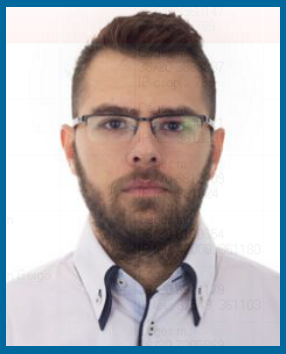

István Nagy

Electrical Engineer - Embedded Systems

Profile

Passionate about programming and learning new technologies. I have gathered experiences as software developer mostly in the field of Automotive and Automation Systems. From both fields I have learnt how to make reliable and safe software and hardware components.
I have developed projects started from making specifications and requirements through making software and hardware component to documentation and delivery.
I like to work indepedently but also I consider myself as a team player especially when a project requires other engineering fields to be merged.

Contact

Address: 2120 Dunakeszi Petőfi utca 13.
Phone: +36 30 833 6719
Email: istvan.nagy1995@live.com
LinkedIn: istvan-nagy-98baa3122

Expertise

- C/C++, Python, Latex, PCB design
- Image processing, Computer Vision
- AUTOSAR Classic Platform
- FreeRTOS, Linux, STM32, Raspberry Pi

Languages

- English(B2) - Daily use and professional working proficiency
- Hungarian - Native

Other interests

- Music production - FLStudio
- VJ production - Resolume

Education

- **Óbuda University - KVK**
  Electrical Engineer (BSc.)
  2015 - 2019
  Specialisation: Automation - Embedded Systems expert
  Classification of the qualification: Outstanding

Experiences

- **Electronics Development Engineer**
  Unix Autó Kft. (2021 - Present)

  I was the part of the Research and Development team. The main portfolio of the department was warehouse automation system development.

  I was responsible for:

  - specificate and making requirements about the project and calculate deadlines for each individual tasks
  - design circuit in Altium or KiCAD with 2 or 4 layers of PCB (THT and SMD components as well)
  - search and order required components and keeping contact with suppliers
  - developing source code for STM32 development boards (or Raspberry Pi)
  - Making unit test framework for functional testing and lifetime testing hardware components
  - Prepare user guide or assembly guide for technicians (with Latex and UML)

  Few of my projects:

  Robot arm positioning with computer vision: I was developing QR Code detection algorithm with the help of OpenCV in C++. The QR code was responsible to show the middle point of an object. If the center point was found then the coordinates were sent via CAN to a STM32 control board and the robot arm was moving according to that.

Slide level detection with computer vision: The task was to check how full are the slides with boxes. I trained a YOLO AI modell to detect boxes but because of the lack of the computation power i redesigned and finalized the project with contour detection.

Robot motion control source code generator: I developed a source code generator for robot controll in Python with the help of Jinja2. A few source code template were created and with the help of them a complete robot motion sequence could be generated instead of writting couple thousand lines of code.

- **Embedded Software Development Engineer**
  Siemens EDA Kft., (Mentor Graphics Kft.) (2019 - 2021)

  I was developing and maintaning AUTOSAR modules which were part of the Classis Platform. Most modules were inside **"Basic Software"** software layer.

  BSW modules I have experiences: NvM, Ea, MemIf, Crc, KeyM, Fr(If,Tp,Nm,SM), Dem, Dlt, Wdg(If,M), Can(If,Nm,SM)

  Development included:

  - source code writing according to SWS (in C language)
  - develop configuration generator (in Java language)
  - make configuration for each module (in ARXML format)
  - writing unit tests and check code coverage with the help of Bullseye
  - making User Guide and Software Design Guide (in LATEX and UML format)

  Development strictly followed ISO26262 (from ASIL A to D) and Automotive SPICE. Jira was used for project management tool.

- **Electrical Technician (Intern during university)**
  Eco Cranes Kft. (2017-2018)

  - Power supply implementation for cranes
  - Remote control configuration and wiring
  - Different crane service tasks