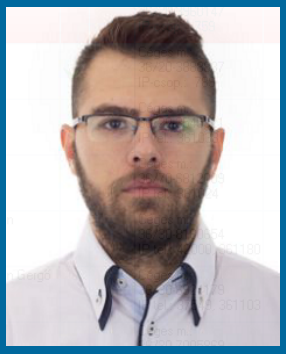

István Nagy

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, Git
- 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
  - make architecture and system design about the project
  - 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
  - develop driver source code for attached sensors/motors
  - 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.

Design softwares

STM32CubeIDE, Visual Studio Code, Altium, KiCAD, FreeCAD, Eclipse IDE, TexMaker, GitExtension

Soft skills

Critical thinker, Good problem solving, Attentive listening and effective oral communication, good leadership skills, fast learner

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 control 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 strictly followed ISO26262 (from ASIL A to D) and Automotive SPICE.
  Jira and Confluence were used as project management tool.

  Klocwork static code analyser knowledge for MISRA C checking.

  Build automation tool was based on Make.

  Development included:

  - source code writing according to requirements from SWS (in C language)
  - develop configuration generator (in Java language)
  - test configuration generator with JUnit testing framework
  - 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)

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

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