

## ALEKSANDR MAKHNEV

**SUMMARY** Broad-minded, high-performing electronics engineering student with a wide range of skills in electronics, programming and prototyping.

With a practical experience in radiological instrument development and laboratory experiment data gathering systems, acquired through a numerous completed projects in these fields, capable of bringing solutions to engineering problems, that emerge during a research process.

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### PROFESSIONAL EXPERIENCED IN:

#### SKILLS

Analog and digital electronics, simulation environments: OrCAD, LTSpice, Multisim, ModelSim

PCB design

Verilog

Altera FPGA chips

LabVIEW

Radiological instruments design

Gamma-ray detector manufacturing

AVR MCUs

Device prototyping and industrial design

3D-printing

#### FAMILIAR WITH:

Python

MatLab

C, C++, Qt

STM32 MCUs

PXI instrument platform

Engineering graphics (AutoCad, Fusion 360)

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**EDUCATION** Bachelor, National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Department of Design of Electronic Digital Equipment

Graduated: 2019

- Diploma project "Gamma-ray imaging system"

Completed coursework:

- Gamma-ray spectroscopy system
- Gamma-ray search dosimeter with a new anomaly detection method
- Low-power personal gamma-ray dosimeter

Major achievements:

- Won at All-Ukrainian Junior Water Prize competition, represented Ukraine at Stockholm Junior Water Prize
- Placed at All-Ukrainian microcontroller systems programming competition

**EMPLOYMENT HISTORY** **JUNIOR RESEARCHER, SCIENTIFIC PRODUCTION SMALL-JOINT ENTERPRISE "OPYT", KYIV, UKRAINE**

2014-2016

Projects completed:

- Remote-controlled robotic system for remote radiation measurement
- Remote-controlled robotic system for radiation and depth mapping of water areas
  - Tested the system in Chernobyl Exclusion Zone's water areas
- Data gathering and analysis system for low radiation chambers
- GPS-binding system for radiation mapping

**LABORATORY ASSISTANT, OPEN HARDWARE LABORATORY "LAMPA", KYIV, UKRAINE**

2016-2018

Worked in a team with two other students as a public workspace mentor, repaired an FDM 3D-printer, participated in organization of international seminars on nanometer ASIC and processor design, conducted in collaboration with Imagination Technologies, worked as a mentor at microelectronics school for children.

Projects completed:

- Temperature characterization setup for scintillation detectors

**CHARACTERIZATION TECHNICIAN, MELEXIS-UKRAINE, KYIV**

2018-2019

Worked in an international team, specializing in automotive integrated circuits verification and characterization. Gained knowledge in the following areas:

- Advanced LabVIEW programming
- NI PXI hardware
- Silicon verification
- Non-volatile memory verification techniques
- Data analysis in Python and Jupyter
- Verification hardware development

Tasks were concentrated in the areas of:

- Development and debugging of verification hardware
- Development of data processing and analysis tools
- Development of silicon verification software for Flash and NVRAM

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**LANGUAGES** English: C1/Advanced  
Russian: Native  
Ukrainian: Native