

# БАКАНСКИЙ

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## SUMMARY

- Interdisciplinary scientist in electronics and electrical engineer with skills and experience in electronics, programming, machine learning and measurement.
- Led development of a project resulting in a patent.
- Self-motivated, problem-solving and collaborative scientist with notable communication skills.
- Have no stress digging in interdisciplinary fields and learning new subjects on the fly.
- Participated in collaborative projects, resulting in publications, including high impact publications.

## TECHNICAL SKILLS

- Electronics IC design: Memory design and simulation, Digital Electronics simulation, analog and digital IC design, Mixed signal simulation, AC,DC,PZ,tran simulation, parasitic parameters analysis,
- Electronics PCB level design: PCB design, microcontroller programming.
- Microscopy/Imaging: SEM (Scanning Electron Microscope), Optical Microscope, Ellipsometry, semi-professional Photography.
- Computational and Machine Learning: Experience in cross platform linux system administration. Have experience in applying machine learning algorithms. General knowledge in framework programming. General knowledge of machine learning methods,

## SOFTWARE AND HARDWARE SKILLS

- Electronics IC design: Cadence virtuoso, SPICE, SPECTRE,
- Electronics PCB design: Altium design, STM32 coding, Arduino coding, KiCad.
- Programming: Python,verilog, verilogA, MATLAB, Shell script

## RESEARCH EXPERIENCE

Neurocomputing systems lab

MIPT

Engineer

January 2018 to present

- This project coordinated by D.Negrov led to development of IC's with a new type of FRAM with 5nm thin ferroelectric layer.
- First russian Neural Processing Unit (NPU) IC developed also developed by MIPT NCS lab, use this new FRAM memory.
- Responsible for development of a memory compiler for new FRAM. Used computational methods to evaluate parasitics in prototype IC chips and measuring zonds.
- This project led to 2 conference theses.

UVL Robotics

Electronic engineer / System administrator

Feb 2020 to present

- Responsible for development and programming of a PCB for AI based drone.
- Created scripts for automated soft building on ARM64 Jetson Xavier NX computer.

Tech Agent Startup

Senior Electronics Engineer

September 2019 to July 2020

- Developed method to generate electrical impulses read by contact pulsometer as human pulse.
- Developed commercial electronic device to work with almost any training apparatus.
- These projects led to the submission of 2 patents.

Ailton medical research

Unimed Group

Senior Electronics Engineer

July 2018 to December 2018

- Led project focused on the developing a device to read a gel card using machine learning algorithms. Eventually led to the creation of a commercial electronic device.

## EDUCATION

- Masters, applied physics and math, Moscow Institute of Physics and Technology (MIPT), 2021
- BS, Bachelor of applied physics and math, Moscow Institute of Physics and Technology (MIPT), 2019.

## TEACHING AND MENTORING EXPERIENCE

- 2015-2019 - Mentored 6 undergraduates in their day-to-day physics and math SAT-level exam prep.
- 2017-2018 - Tutoring in summer camps (foxford.ru)

## AWARDS

- Winner of 62 MIPT conference, in section of nanotechnologies.

## CONFERENCE PRESENTATIONS

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- International forum microelectronics 2019. Thesis: "Developing high energy efficient FRAM memory in neurocomputing application".
- 62 MIPT conference. Thesis "Compiler for high energy efficient FRAM memory in neurocomputing application"

## PUBLICATIONS

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Still yet to come

## OTHER SKILLS

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Software Linux user, Photoshop.

Languages English: professional proficiency. Russian: native.

Photography Have experience in professional photography.