

# MIKHAIL SOLOVYANOV, MASTERS

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## SUMMARY

- Interdisciplinary scientist and engineer with skills and experience in electronics, programming and measurement.
- Led development of a project resulting in a patent.
- Deep understanding of
- Self-motivated, problem-solving and collaborative scientist with notable communication skills
- 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:** Machine Learning, General knowledge in framework programming.

## 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

Engineer

MIPT

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.

### 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.

### Ailiton medical research

Senior Electronics Engineer

Unimed Group

July 2018 to December 2018

- Led project focused on the developing a device to read a gel card using machine learning algorithms.
- This project 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

- 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

Take the top 5-6, bold your author position

## OTHER SKILLS

**Software** Linux, Photoshop.

**Languages** English: professional proficiency. Russian: native.