

# Konstantin Nesterov

TECH ENTREPRENEUR

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## Summary

With extensive experience in the software development within various fields, I have proven expertise in successfully planning, governing, and implementing the complex features. With my broad domain knowledge, ability to estimate the risk correctly, and the willingness to take it, I constantly adapt my strategy and ensure that the quality requirements and business needs are satisfied within the deadlines. Through my soft skills I constantly maintain proper coordination between different members of the team, helping them to be efficient in their roles.

## Education

### Department of Physics ETHZ

M.Sc. IN PHYSIK

- Best technical university of continental Europe
- GPA: 4.89/6

Zurich, Switzerland

September 2016 – February 2020

### Faculty of Physics MSU (Lomonosov Moscow State University)

B.Sc. IN PHYSICS

- Best university of post-Soviet space
- GPA: 4.51/5

Moscow, Russia

September 2012 – June 2016

## Skills

**Programming** JavaScript, TypeScript, Node.js, GraphQL, Docker, Kubernetes

**Languages** Russian, English (TOEFL iBT: 116, IELTS Academic: 7.5), German B2 (in process)

## Career History

### Co-Founder & CTO

REBELS TECHNOLOGIES GMBH

- Was responsible for the architecture of multiple mobile applications, websites, and servers
- Ensured security of the users' data by enforcing encryption and industry best practices
- Translated the business tasks into the concrete technical implementations
- Defined the strategy for a stable and predictable load management
- Configured the whole internal infrastructure
- Set the standards to ensure the quality and the manageability of the projects
- Managed employees to help them to grow professionally and to be productive
- Contributed to the company's business strategy and future plans
- Interviewed and hired core team members
- Represented the company on the various startup competitions
- Communicated with the investors to meet their aims and to safeguard the fundraising

Zurich, Switzerland

September 2018 – Present

## Scientific Projects

### Supervisory Control and Data Acquisition system of the n2EDM experiment

PRECISION PHYSICS AT LOW ENERGY, DEPARTMENT OF PHYSICS ETHZ

- Designed and implemented features of the internally developed programming language
- Improved the connectivity between various DAQ (Data Acquisition system) modules
- Enabled the DAQ to function in the error-prone environments
- Refactored and standardized the communication protocols to boost the speed of development
- Enhanced both the developer and user experiences

Zurich, Switzerland

June 2019 – February 2020

### Development of an RF resonator for a double junction ion trap

TRAPPED ION QUANTUM INFORMATION GROUP, DEPARTMENT OF PHYSICS ETHZ

- Calculated optimal parameters for a helical resonator filtering and amplifying RF signal for an ion trap
- Designed tunable helical resonator for the cryogenic setup in Autodesk Inventor
- Produced device complying with engineering limitations
- Compared experimental output with modeled predictions

Zurich, Switzerland

September 2018 – March 2019

## **Optical response of Mie-resonant nanoparticles bounded with dielectric waveguides**

*Moscow, Russia*

LABORATORY OF NANOPHOTONICS & METAMATERIALS, QUANTUM ELECTRONICS DEPARTMENT, FACULTY OF PHYSICS MSU

*September 2015 – June 2016*

- Calculated optimal geometric parameters of silicon waveguides, nanodisks or their ordered arrays, optically bounded with waveguides and nanodisk chains
- Fabricated optically bounded silicon nanostructure samples
- Investigated linear spectrums and transmittance of waveguides in wide spectral range, overlapping nanodisk Mie-resonant frequencies
- Researched nonlinear optical response and all-optical switching phenomena in created nanostructures via methods of microscopy of optical harmonics generation, four-wave mixing and “pump”-“probe” technique

## **Evaluation of effective permittivity and permeability of artificial structures**

*Tohoku, Japan*

DEPARTMENT OF PHYSICS, FACULTY OF SCIENCE, TOHOKU UNIVERSITY

*July 2015 – August 2015*

- Used an electromagnetic simulator (CST Microwave Studio) to design the structures
- Fabricated own structures by photolithography technique
- Characterized the sample using conventional spectrometer and Atomic Force Microscope
- Measured phase information with Mach-Zehnder interferometer
- Retrieved effective permittivity and permeability based on an algorithm (MATLAB & Wolfram Mathematica)

## **The development of components for energy efficient superconductor and semiconductor systems, signal detection, reception, and processing of information (funded by Presidential grant)**

*Moscow, Russia*

LABORATORY OF NANOSTRUCTURE PHYSICS, DEPARTMENT OF MICROELECTRONICS,

*August 2014 – May 2015*

SINP MSU (SKOBELTSYN INSTITUTE OF NUCLEAR PHYSICS)

- Researched physical foundations of new compact, energy-efficient, and non-volatile superconducting memory elements
- Optimized the transmission line and data transmission mechanism for the new superconducting element base
- Investigated the possibility of using the new base elements in the amplifiers and SQUID detectors

## **Relativistic quantum cryptography and cryptography based on PTC (Phase Time Coding)**

*Moscow, Russia*

QUANTUM INFORMATION LABORATORY, DEPARTMENT OF QUANTUM ELECTRONICS, FACULTY OF PHYSICS MSU

*December 2013 – June 2014*

- Investigated various interferometric schemes capable of revealing non-classical features of biphoton field generated in the process of SPDC
- Got basic understanding of quantum cryptography protocols and attacks on them

## **Superconducting spin valve based on the Josephson junction with a layer of insulator, superconductor, and ferromagnetic (funded by Federal Target Program)**

*Moscow, Russia*

LABORATORY OF NANOSTRUCTURE PHYSICS, DEPARTMENT OF MICROELECTRONICS,

*October 2012 – November 2013*

SINP MSU (SKOBELTSYN INSTITUTE OF NUCLEAR PHYSICS)

- Gained knowledge about physical foundation of the Josephson junction
- Used numerical methods to calculate multifarious parameters of circuits including Josephson junctions