Contact

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Top Skills

Digital Twins
LangGraph
LangChain

Anton Averin

R&D AI/Photonics Engineer
Berlin, Berlin, Germany

Summary

I’m a motivated researcher with a strong background in ML and photonics, active in science since 2016. My passion lies in turning data into insights - building predictive models, applying computer vision, and finding practical ML solutions to complex problems. Right now, I’m driving a project that uses ML and computer vision to detect internal defects in complex-shaped objects - bridging cutting-edge research with real industrial impact. Earlier, I also explored the medical tech field by developing a concept for a miniaturized non-invasive glucose monitoring device. While that project didn’t succeed due to limited resources, it sharpened my skills in innovation, resilience, and project execution. I thrive at the crossroads of ML, data, and applied science, and I’m always open to opportunities where technology can make a real difference.I also leverage agentic AI workflows to compress the loop from hypothesis to validated result-automating data checks, feature exploration, and reporting so attention stays on decisions that move performance.

Experience

Bundesanstalt für Materialforschung und -prüfung

Physics/ML Researcher
December 2023 - Present (2 years 7 months)
Berlin, Germany

Developing system for non-destructive integrity testing of nuclear waste barrels.

-Development of the method and experiments design

-Verification of excitation schemes

-Development of a signal postprocessing and reuslts evaluation pipelines

-Enhancement of detectability by combining ML with conventional postporcessing methods

Fraunhofer IZM

Researcher
March 2023 - October 2023 (8 months)

Berlin, Germany

Work in field of integrated photonics:

Reponsibilities:

-Micro optics assembly (coupling fibers, optical chips and optical resonators).

-Research of grant opportunities

Friedrich Schiller University. Physical Astronomical Faculty. Institute Appled Physics.

Student Researcher

July 2021 - January 2023 (1 year 7 months)

Jena

-Development of the setup for non-invasive polarimetry based measurements of glucose concentration in human blood.

-Prototyping of suggested schemes.

-Building of setups computer models based on experimentally measured Mueller matrixes of the setups' optical elements.

-Stability and resolution analysis using Monte Carlo simulations.

-Data acquisition and analysis processes automatisation using Python.

-Further precision improvement with lock-in techniques and drift correction of moving body parts of measurements.

Faculty of Physics and Astronomy of Friedrich-Shiller Unversity

Student Researcher

January 2021 - April 2021 (4 months)

Jena

Topic: X-ray tomography.

Task:

-Assembly and setup of the installation for X-ray computer tomography with plasma generated via laser-gas interaction as a source of radiation.

Moscow Power Engineering Institute (Technical University)

2 years 6 months

Student Researcher

October 2018 - July 2019 (10 months)

Moscow, Russia

Topic: Spectoscopy

Tasks:

-investigation of carbon containing materials by methods:

-X-ray photo emission spectroscopy

-Auge electron spectroscopy

-elastic peak electron spectroscopy

-electron energy loss spectroscopy

-reflected electron spectroscopy

Student Researcher

February 2017 - October 2018 (1 year 9 months)

Moscow, Russia

Topic: plasma-surface interaction.

Tasks:

-developing a system of Langmuir probe fast moving inside of vaccume chamber for measurement of plasma parameters (temperature, density) in center of its cord

-measurement and interpreting of Langmuir probe data

Russian Research Center "Kurchatov Institute"

Student Researcher

October 2016 - October 2018 (2 years 1 month)

Moscow, Russia

Topic: Plasma rocket thruster.

Tasks:

-Computer modelling of magnetic system for plasma confinement inside system

-Development and computer modelling of sensor for measuring of electron energy distribution in nozzle of the setup

-Basic parameter measurement with Lengmuir probe

Education

Friedrich Schiller University Jena

Master's degree, Photonics · (2020 - 2022)

Moscow Power Engineering Institute (Technical University)

Bachelor's degree, Nuclear energetics and thermal physics · (2015 - 2019)