

# Arseniy Shchepetnov

## Data Scientist/Lead Data Scientist

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## Objective

Data Science/Lead Data Science, Development

## Relevant skills

My interest vector is referred to Data Science, Research and Development, Product Development related to technologies. As for my experience I have:

- 5 years of Data Science and Algorithmic Research
- 2+ years of people management
- 8 years of practical development in different languages
- 5 years of academic research in Theoretical Physics (Quantum Physics)

In different organizations I gained experience in Digital Signal Processing, Machine Learning, Deep Learning, etc, and I have developed many product components and algorithmic solutions for business value, that were successfully deployed. Under my direction as Data Science Team Leader a new data processing service was developed for the analysis of geological data using deep learning models, where I have designed full infrastructure from processing raw data pipelines to DL/ML processing and model library. Also, I have developed FastAPI service on parallel project.

I have advanced development skills with Python including linting, CI/CD, FastAPI, Flask and others (see examples on GitHub), ability to create interactive visualisation tools and dashboards. Other languages that are covered with my experience are C++, Fortran, R.

Academic research in physics provided a fundamental pillar and a useful tool for my development in Data Science.

For personal NLP project I have developed web scraping tool (Scrapy + MongoDB) and deployed it on Google Colab for NLP experiments. It produced database with 10k processed articles with summary in one day.

## Employment history

November  
2022 —  
January 2023

### **Data Scientist**

«3Commas» (Data Science), Tbilisi, Georgia

Developed solutions for ML cryptocurrency trading and inner projects related to Data Science.

- During the first week in company I developed message classification model for customer support data analysis.
- I introduced changes in Data Science development process for both code and MLOps.
- I developed and deployed several model backtesting components.

May 2021 —  
October 2022

### **Lead Data Scientist/Team Lead/Senior Consultant -> Manager**

«PWC» (Technology, Artificial Intelligence), Saint-Petersburg

I was leading and developing multiple Data Science projects related to Bayesian Networks, Deep Learning and Machine Learning. Data Science format includes both algorithmic and software development.

- Developed MLOps architecture and code for Deep Learning models for well logs data analysis.
- Designed and developed software for Bayesian Networks using FastAPI plus serious optimizations of python library for Bayesian Networks.
- Well Logs retrieval research with Deep Learning models was done under my direction, the client was satisfied and results were used in geology.
- I hired 2 junior and 1 intern Data Scientists and in less than a year got 2 junior and 1 middle.
- Due to good performance I was promoted up to the Manager Grade.
- I held a speech on careers days in two universities.

After rebranding in July the unit is called «Digital Formula of Trust».

May 2018 —  
May 2021

### **Data Scientist/Lead Data Scientist/Team Lead**

«[IBM STC](#)» (GBS, “Cognitive Practice Team”), Saint-Petersburg, Moscow

Consulting services in the area of Data Science and Artificial Intelligence. Research and development of Data Science and AI solutions for clients.

- Developed models for searching oil intervals with Deep Learning and Machine Learning models. Real oil was extracted in locations that models predicted.
- I carried out research on correlation of wells for spatial analysis and designed several models. Predictions were used by the client.
- Using bokeh package I have developed interactive dashboards for geological data, including GIS signals and layers visualizations and maps.
- I developed model serving solutions for research optimization.
- I grew from middle to senior Data Scientist and started leading a team.

Aug 2016 —  
May 2018

### **Research and Development**

«[Healbe corp.](#)», Saint-Petersburg

Research and Development of algorithms for the wearable device sensors.

- I developed algorithms for custom piezoelectric and optical devices which were successfully deployed.
- I developed several utilities for data transfer from wearable devices and applying algorithms on the local machine which were used also in parallel projects.

Nov 2013 —  
Feb 2016

### **Engineer-programmer**

«[Russian Institute for Power Radiobuilding](#)», Saint-Petersburg

- I developed PostgreSQL database and UI on C++/Qt4 which was successfully deployed for business on Linux.

Jan 2015 —  
Dec 2015

### **Researcher**

«[Saint-Petersburg State University](#)», Saint-Petersburg

Research in the field of atomic physics,  $g$  factor theory, nuclear recoil effect.

Jan 2014 —  
Dec 2016

### **Researcher**

«[Institute for Theoretical and Experimental Physics](#)», Moscow

Research in the field of atomic physics supported by “Helmholtz-Rosatom” grant. Theme: “Zeeman splitting in highly-charged ions: novel approach to the non-linear effects”.

Sep 2011 —  
Jan 2012

**Teacher (Physics)**

«[Laboratory for Continuous Mathematical Education](#)», Saint-Petersburg

Teaching physics at 8 and 9 year classes. Special seminars on thermodynamics.

## Education

Sep 2013 —  
Jul 2016

**Postgraduate student** (Theoretical Physics)

[Saint-Petersburg State University](#)

Department of Physics, Division of Quantum Mechanics

Sep 2011 —  
Jul 2013

**Master's degree** (Quantum Mechanics of Atoms, Molecules and Solids)

[Saint-Petersburg State University](#)

Department of Physics, Division of Quantum Mechanics

Sep 2007 —  
Jul 2011

**Bachelor's degree** (Quantum Mechanics of Atoms, Molecules and Solids)

[Saint-Petersburg State University](#)

Department of Physics, Division of Quantum Mechanics

## Certificates

Coursera August 2022	<b>Natural Language Processing Specialization</b> <a href="#">D4F2WRLEHCY8</a>
Coursera August 2022	<b>Natural Language Processing with Attention Models</b> <a href="#">TT5J2NHDYDY2</a>
Coursera August 2022	<b>Natural Language Processing with Classification and Vector Spaces</b> <a href="#">3LL65SQH6EWM</a>
Coursera August 2022	<b>Natural Language Processing with Probabilistic Models</b> <a href="#">C3RSRG7T853E</a>
Coursera August 2022	<b>Natural Language Processing with Sequence Models</b> <a href="#">667D47FVSK3M</a>
Coursera July 2022	<b>Combinatorics and Probability</b> <a href="#">EFYQQQ9GUTUP</a>
Coursera June 2022	<b>Sample-based Learning Methods</b> <a href="#">KC4T942AATVE</a>
Coursera May 2022	<b>Fundamentals of Reinforcement Learning</b> <a href="#">U3NT5V7XZCNK</a>

## Publications

- A. A. Shchepetnov, D. A. Glazov, A. V. Volotka, V. M. Shabaev, I. I. Tupitsyn, G. Plunien “Nuclear recoil correction to the  $g$  factor of boron-like argon”. Journal of Physics: Conference Series, 2015. — Vol. 583, — P. 012001
- I. A. Aleksandrov, A. A. Shchepetnov, D. A. Glazov, V. M. Shabaev “Finite nuclear size corrections to the recoil effect in hydrogenlike ions”. Journal of Physics B: Atomic, Molecular and Optical Physics, 2015. — Vol. 48, — No. 14. — P. 144004
- D. A. Glazov, A. V. Volotka, A. A. Schepetnov, M. M. Sokolov, V. M. Shabaev, I. I. Tupitsyn, G. Plunien “ $g$  factor of boron-like ions: ground and excited states”. Physica Scripta, 2013. — Vol. T156, — P. 014014

## International conferences

- Seminar on Astrophysics, Clocks and Fundamental Constants, Bad Honnef, Germany (Poster), 2015
- Topical Workshop of the SPARC Collaboration, Worms, Germany (Poster), 2014
- [International Conference on Science and Technology for FAIR](#), Worms, Germany (Poster), 2014
- [International Conference on the Physics of Highly Charged Ions](#), San Carlos de Bariloche, Argentina (**Oral presentation**), 2014
- [Fin Q workshop](#): International conference «Quantum Informatics and Applications», St. Petersburg, Russia (No report), 2013
- [The Workshop on Precision Physics and Fundamental Physical Constants](#), Pulkovo, St. Petersburg, Russia (Poster), 2013
- [XX Conference on Fundamental Atomic Spectroscopy](#), Voronezh, Russia (**Oral presentation**), 2013

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