Arseniy Shchepetnov

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 managment

- 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 piplines 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. It produced database with 10k processed articles with summary in one day.

Employment history

May 2021 —
Now

Lead Data Scientist/Team Lead/Senior Consultant -> Manager
«PWC» (Technology, Artificial Intelligence), Saint-Petersburg

I am 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 holded 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 Intellegence. 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 vizualizations 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	**Natural Language Processing Specialization** D4F2WRLEHCY8
Coursera August 2022	**Natural Language Processing with Attention Models** TT5J2NHDYDY2
Coursera August 2022	**Natural Language Processing with Classification and Vector Spaces** 3LL65SQH6EWM
Coursera August 2022	**Natural Language Processing with Probabilistic Models** C3RSRG7T853E
Coursera August 2022	**Natural Language Processing with Sequence Models** 667D47FVSK3M
Coursera July 2022	**Combinatorics and Probability** EFYQQQ9GUTUP
Coursera June 2022	**Sample-based Learning Methods** KC4T942AATVE
Coursera May 2022	**Fundamentals of Reinforcement Learning** U3NT5V7XZCNK

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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