Serguei Ossokine, Ph.D

Data Engineer

https://sergeiossokine.github.io serguei.ossokine@tutanota.com Serguei Ossokine SergeiOssokine

Data professional with 7+ years of experience in designing and implementing data pipelines, performing complex data analysis, and developing scientific software. Strong background in Python, SQL, and cloud computing.

WORK EXPERIENCE

Scientific Programmer at Max Planck Institute for Gravitational Physics **Potsdam, Germany**

Jul 2019 - Jul 2023

- **Designed and implemented an end-to-end ETL data processing Python pipeline** to incorporate data from multiple sources, **improving efficiency by over 200%.**
- **Spearheaded the development** of state-of-the-art code Python code to model gravitational waves from binary black hole systems, **improving efficiency and accuracy 10x**.
- **Led the creation** of a Python framework for automatic parameter selection in data analysis, decreasing time to production
- Performed full **Bayesian statstical analysis and model selection** for headline publications.
- Created impactful **scientific visualizations** exceeding 400k views and **garnering media attention** from outlets like Scientific American.
- **Collaborated with cross-functional teams** in scientific collaboration spread across the globe. Mentored undergraduate and graduate students.

Postdoctoral Scholar at Max Planck Institute for Gravitational Physics **Potsdam, Germany**

Sep 2015 - Jul 2019

- **Developed an R code** to compute equilibrium solutions for boson stars, **enabling the first comparison** of binary boson star simulations with different numerical codes.
- Contributed to **large-scale C/C++ scientific code-bases** for numerical modelling gravitational waves, including parallelized HPC codes, such as LALSuite and Spectral Einstein Code, with the results used in >50 of publications.
- Created a codebase to benchmark the accuracy of gravitational wave models, **streamlining comparisons** of different models.

EDUCATION

Ph.D. in Astronomy and Astrophysics at University of Toronto

Sep 2010 - Aug 2015

Thesis: Modelling precessing binary black hole systems

M.Sc. in Astronomy and Astrophysics at University of Toronto

Sep 2009 - Aug 2010

BSc in Astronomy and Astrophysics at University of Toronto

Sep 2005 - Aug 2009

SKILLS

Programming languages

Python | R | SQL | C/C++ | bash | Fortran | Javascript

Data Engineering

PostgreSQL | Airflow | dlt

Cloud computing

AWS | Terraform | CloudFormation

Data Analysis & ML

Statistical modeling | Bayesian methods | numpy | scipy | pandas | scikit-learn | pytorch | tensorflow | MLFlow | W&B

Tools

Git | CI/CD tools such as Github Actions, etc | Docker | Linux | Office

LANGUAGES

English
Native speaker

Russian
Native speaker

French
Intermediate

German
Beginner