Dr. Vlas Sokolov

Data Scientist/Engineer

24 April 1991, Ukraine

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GitHub profile: vlas-sokolov

Stack Overflow: profile link

About me

I am a data engineer with a strong background in quantitative sciences – astrophysical image and spectral cube data processing in particular. I enjoy tinkering with data processing, machine learning, statistical methods, and data visualization. With strong academical, analytical and programming backgrounds, I am keen to apply my skills to real-world datasets, using modern Python data analysis tools and cutting-edge numerical methods.

Skills

Python ML stack: Python, numpy, scipy, scikit-learn, nltk, pandas, matplotlib

Cloud infrastructure: AWS Lambda, S3, SQS, EC2, CloudWatch

Databases: NoSQL, MongoDB, Elasticsearch, RDF, SPARQL, Redis

DevOps: CI/CD, git, Travis, Docker, Serverless

Languages

FLUENT: English

NATIVE: Ukrainian, Russian

INTERMEDIATE: German, Chinese

Work Experience

2018–current INNOSPOT GmbH — Germany
Data Engineer

- Designed, developed, and maintained data processing pipelines
- Implemented and deployed machine learning solutions into production environment
- Developed and maintained cloud microservices and APIs
- Optimised performance on search and database components
- Overhauled existing data pipelines, adapting them for big data bandwidth
- Set up dedicated monitoring dashboards for cloud services
- Implemented centralized CI/CD pipelines
- Conducted code reviews and supervised other team members

2014–2018 Max Planck Institute for Extraterrestrial Physics — Germany
Doctoral Researcher

- Analysed astronomical maps of Galactic star forming regions
- Applied clean coding practices while routinely building data reduction pipelines for large astronomical imaging and spectral datasets
- Actively contributed to open-source packages (pyspeckit, astropy, matplotlib)

2012–2014 National Tsing Hua University, Institute of Astronomy — Taiwan
Research Assistant

- Implemented a Levenberg-Marquardt gradient-descent algorithm (C)

Education

Sep 2014 – Aug 2018 Ludwig-Maximilians-Universität München — Germany
Ph.D.; Astrophysics

Sep 2012 – Aug 2014 National Tsing Hua University — Taiwan
M.Sc.; Institute of Astronomy

Sep 2008 – Jul 2012 National Chiao Tung University — Taiwan
B.Sc.; Dept. of Electrophysics

Portfolio

- Grid-search optimization for initial values of gradient descent algorithm (Python, numpy; GitHub link)
- Bayesian inference and model selection package for large spectroscopic datasets (Python, nested sampling, Open MPI; GitHub link)
- Webscraper for an automated retrieval of Herschel infrared Galactic Plane Survey maps (Python, selenium; GitHub link)
- Co-author on a multivariate clustering method for astrophysical applications (Python; GitHub link)

Academic Expertise

- Experience in independent academic research (list of publications)
- Talks at multiple domestic and international conferences
- Years of hands-on expertise on extracting faint features from image datasets
- Deep understanding of statistical methods and concepts
- Capacity for independent analysis and self-reliant problem-solving skills
- Keen interest in Bayesian parameter estimation and model comparison