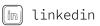
# Vsevolod Nedora, Ph.D

Researcher, Data Scientist



github



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0154239433

#### **EXPERIENCE**

### MAX-PLANCK-INSTITUT FÜR GRAVITATIONSPHYSIK

| Postdoctoral Researcher

November 2021 - Current | Potsdam, Germany

- → I developed and maintained multiple Python and C++ modelling tools, including the PyBlastAfterglow code that has been used for multiple peer-reviewed publications.
- → Working with large collaboration, including GRANDMA collaboration, analyzing observational data and performing model predition.

## FRIEDRICH-SCHILLER-UNIVERSITÄT

RESEARCHER

October 2018 - November 2021 | Jena, Germany

- → I post processed and analyzed Big Data outputs of large hydrodynamic simulations, extracting and statistically analyzing physical quantities.
- → I taught multiple classes on a graduate and undergraduate level, and worked with individual students on their graduate projects.
- → I performed end-to-end statistical analysis of properties of matter ejected at neutron star mergers, performing data collection, cleaning, analysis and modeling using regression models, and publishing results in a peer-review journal.

## **PROJECTS**

#### BIG DATA PROCESSING PIPELINE | PYTHON

2021

- → I designed a pipeline to post process an output from large numerical hydrodynamic simulations of colliding neutron stars. The pipeline collates various output files, extracts phsyical information and creates descriptive figures
- → The pipeline was used by my team for several peer-reviewed scientific publications

## STATISTICS MODEL FOR EJECTED MATTER | PYTHON

2022

- ightharpoonup I designed a set of tools to statistically study the properties of matter ejected in colliding neutron stars, and created a model that performs better than others, using reduced  $\chi^2$  statistics and residuals analysis.
- → The model has been used by multiple groups for Bayesian and ML analysis.

### **EDUCATION**

#### FRIEDRICH-SCHILLER-UNIVERSITÄT JENA

Ph.D. IN THEORETICAL PHYSICS

October 2018 – November 2022 | Theoretisch-Physikalisches Institute, Jena, Germany Grade: Magna cum laude

#### RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN

MASTER'S DEGREE IN ASTROPHYSICS

September 2016 – October 2018 | Argerlander Institute for Astronomy, Bonn, Germany Cum. GPA: 2.0 / 1.0

#### **FAR-EASTERN FEDERAL UNIVERSITY**

BACHELOR'S DEGREE IN PHYSICS

September 2013 – October 2018 | Far-Eastern Federal University, Vladivostok, Russia

Cum. GPA: 5.0 / 5.0

## **SKILLS**

Numerical modeling & Simulations
Statistical Modeling
Data Visualization
ML Algorithms
Clustering & Classification
High-performance computing

Analytical thinking
Problem solving
Project management
Public speaking
Technical writing
Teaching
Collaboration
Communication

## **TECHNICAL EXPERTISE**

#### Languages

• Python • C++ • LATEX • SQL

Packages and services:

ScikitLearn • Tensorflow •
PyTorch • Numpy • scipy •
Pandas • Plotly/Dash • HDF5 •
Git • Docker

Mathematical methods:

Neural networks • Bayesians statistics • Gaussian processes • ODEs • Monte-Carlo

#### REFERENCES

**Tim Dietrich**, Professor, Max-Planck-Insitute Für Gravitationsphysik

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