Viktor Senderov

Academic Curriculum Vitæ

Researcher, Teacher, and Software Developer.
Application of Computer Methods to Biodiversity Science.
Probabilistic Programming Languages, Bayesian Analysis,
Knowledge Graphs and Natural Language Processing.

Professional experience

2022 – 2024 **Postdoctoral researcher in computational biology**, *École normale supérieure (ENS-PSL)*, Paris, Morlon lab

Leading the Q-T-Birds project: *Quantitative tools for assessing the correlated evolution of genes and phenotypes: application to birds color patterns* at the Morlon Lab.

2022 **Researcher in computer science**, *KTH Royal Institute of Technology*, Stockholm, Broman lab

Front-end compiler design of the probabilistic programming language for phylogenetics TreePPL at the Broman Lab.

2020 – 2022 **Marie Skłodowska-Curie postdoctoral researcher in bioinformatics**, *Swedish Museum of Natural History*, Stockholm, Ronquist Lab

Leading the EU-funded PhyPPL project: *First applications of universal probabilistic programming to hard problems in phylogenetics* at the Ronquist Lab.

2018 – 2020 **Postdoctoral researcher in bioinformatics**, *Swedish Museum of Natural History*, Stockholm, Ronquist lab

Proof of concept for using universal probabilistic programming languages in the field of phylogenetics.

2015 – 2018 **Marie Skłodowska-Curie Ph.D. student and data scientist**, *Pensoft Publishers*, Sofia, Bulgaria

Developed the OpenBiodiv-O ontology and the OpenBiodiv knowledge-management system for biodiversity information at Pensoft Publishers.

2015 **Intern**, *Harrison CST Holdings GmbH*, Munich, Germany

Legal research for a litigation in a mergers and acquisitions case and Microsoft Visual Basic programming (clinical trials industry).

2014 – 2015 **Guest scientist in bioinformatics**, *Max-Planck-Institute for Biochemistry*, Munich, Habermann Lab

Worked on viPEr and PEANuT: *Graphical tools for creating and analyzing focus networks to identify cross-talk between molecules and pathways* at the Habermann Lab.

2006 – 2010 **Unix software engineer level II**, *Hewlett-Packard*, Sofia, Bulgaria

Enterprise systems support for Germany, HP-UX 11.31, ServiceGuard, compilers.

Education

Degrees

27 Jul 2019   **Ph.D. in Computer Science**, *Bulgarian Academy of Sciences*, Sofia, Bulgria
Doctoral thesis: *The Open Biodiversity Knowledge Management System in Scholarly Publishing*
DOI: 10.13140/RG.2.2.34687.18081.

10 Aug 2014   **Master's of Science in Biostatistics**, *Ludwig-Maximilians University*, Munich
Master's thesis: *Estimating population genetic parameters of complex evolutionary models from sequenced regions by means of approximate Bayesian computation.*

30 Jul 2009   **B.Sci. degree in Computational Mathematics**, *Otto-von-Guericke University*, Magdeburg, Germany
Bachelor's thesis: *A theoretical and experimental evaluation of selected separation bounds.*

Graduate studies

2015 – 2018   **Marie Skłodowska-Curie Ph.D. student in biodiversity informatics**, *Bulgarian Academy of Sciences and Pensoft Publishers*, Sofia, Bulgaria
BIG4 training network: *Biosystematics, informatics and genomics of the big 4 insect groups.*

2012 – 2014   **Master's student in Biostatistics (DAAD scholarship)**, *LMU*, Munich

2010 – 2011   **Graduate student (Ph.D. track) in Biostatistics**, *University of California*, Davis
Transferred to LMU Munich with a DAAD scholarship.

Undergraduate studies

2002 – 2004, 2007 – 2009   **Undergraduate student in Computermathematik**, *Otto-Von-Guericke-University*, Magdeburg, Germany
Leave of absence between 2004 to 2007 due to medical reasons. In 2006 started working at HP Sofia and continued to work remotely till 2010 simultaneously with resuming my studies at the OvGU in 2007.

2001   **Undergraduate student**, *International University Bremen (now Jacobs)*, Germany
Transfered to OvGU due to private reasons.

Distinctions, prizes, awards

April 2024   **Keynote Speech**, *14th Annual Research Day of the School of Mathematical and Statistical Sciences of the University of Galway*, Galway, Ireland

April 2022   **Distinguished Artifact Award**, *European Symposium on Programming (ESOP)*
for the paper *Compiling Universal Probabilistic Programming Languages with Efficient Parallel Sequential Monte Carlo Inference*

2020 – 2022   **Marie Skłodowska-Curie Postdoctoral Fellowship**, *National Museum for Natural History*, Stockholm, Sweden

13 Feb 2018   **Featured article**, *Journal of Biomedical Semantics*, OpenBiodiv-O paper

2019   **Hall of FameLab winner (first place)**, *Natural History Museum*, London
World Wide Webs: science communication competition

11 Feb 2018   **Silver medalist (second-place) of #Datathon18**, *Data analysis competition*

26 Mar 2017   **Gold medalist Winner (first place) of #Datathon17**, *Data analysis competition*

2015 – 2018   **Marie Skłodowska-Curie Ph.D. Position**, *Pensoft Publishers and Bulgarian Academy of Sciences*, Sofia, Bulgaria

2012 – 2014   **Full DAAD scholarship Master's**, *Ludwig-Maximilians-Universität*, Munich

2001   **Full scholarship for Bachelor's**, *International University Bremen (Jacobs)*, Bremen

1999   **Golden medal (summa cum laude)**, *The U.S.A. National Latin Exam*

Scientific output

Full list of publications, talks, and other contributions
See Supplement 1 (Summary of Scientific Achievements)

Selected publications
See Supplement 2 (List of Selected Publications)

Teaching experience and science communication

See Supplement 3 (Summary of Pedagogical Achievements)

Leadership, innovation, and organizational experience

Leadership and organizational experience
See Supplement 4 (Presentation of Other Merits)

Participation in industrial innovation and software
See Supplement 4 (Presentation of Other Merits)