

Venelin Mitov

Data Scientist, Ph.D.

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📄 venelin.github.io

Curriculum Vitae

Academic path

- 2019–2020 **Post-doctoral fellow**, Computational Evolution group, Department of Biosystems Science and Engineering (D-BSSE), ETH Zurich, supervised by Prof. Dr. Tanja Stadler.
- 2014–2018 **Ph.D. student**, Computational Evolution group, D-BSSE, ETH Zurich, supervised by Prof. Dr. Tanja Stadler, Thesis: Phylogenetic comparative methods in the era of big data.
- 2011–2013 **M.Sc. student**, Computational Biology and Bioinformatics, ETH Zurich, Switzerland, Thesis: Transfer learning of genome wide transcription dynamics during a malaria infection.
- 2004–2005 **International exchange (Erasmus) student**, DESS, Networks and Telecommunications, University Louis Pasteur, Strasbourg, France.
Included as part of B.Sc. studies.
- 2000–2005 **B.Sc. student**, Computer Science, University St. Kliment Ohridski, Sofia, Bulgaria.

Nominations

- 2018 **Nomination for the Silver Medal of ETH Zurich for outstanding doctoral thesis.**
Six nominated candidates from D-BSSE will be evaluated for the award on December 18th 2019.

Grants

- 2015 **Funding for the first “Taming the BEAST” workshop**, Swiss Universities Conference (SUK) doctoral program 2013-2016, 25'000 CHF.

Publications

Refer to venelin.github.io/publications.

Presentations

Refer to venelin.github.io/talks.

Projects

Refer to venelin.github.io/projects.

Other contributions

- 2019 Co-organiser of the seminar series “Methods & Beers”, <https://methods-and-beers.ch>.
- 2016 Co-organiser of the first “Taming the BEAST” workshop, <https://taming-the-beast.org>.
- 2015 Review of the article “Predicting Microbial Traits with Phylogenies”, Systematic Biology.

Employment

- 2010–2011 **Lead performance engineer**, Adhoc International, Basel.
Project leadership in testing for web application.

- 2006–2010 **Performance engineer**, Adhoc International, Basel.
Development and execution of performance tests for web applications.
- 2005 **Software engineer (internship)**, Adhoc International, Basel.
Design and implementation of test automation tools for web applications.
- 2003–2004 **System administrator**, University St. Kliment Ohridski, Sofia, Bulgaria.

Skills

- Modeling / machine learning:
- Multivariate regression and classification: linear regression, logistic regression, support vector machines, neural networks;
 - Dimensionality reduction and regularization: Ridge, Lasso, Principal Component Analysis; self-organizing maps;
 - Population dynamics: Ordinary differential equations (ODE) models;
 - Computer assisted drug design: virtual molecular screening and molecular dynamics simulation;
 - Graphical models: Bayesian networks;
 - Stochastic models: Branching processes, Brownian motion (BM) and Ornstein-Uhlenbeck (OU) processes, Gaussian models.
- Computational skills:
- Data structures and algorithms;
 - Programming languages: C++, Java, R, Matlab, Unix shell, SQL;
 - Libraries: STL, Armadillo, alglib;
 - Parallel computing: OpenMP, MPI, LSF;
 - Data visualization: ggplot2.
- Other skills:
- Project leadership;
 - Scientific writing, documentation and presentation skills;
 - Languages: English and French – fluent, German – C1, Bulgarian – native.

Interests and hobbies

Playing the piano, swimming, volleyball, hiking, bicycle touring.

References

Upon request.