Ilya Prokin Russian national with French work permit.

+33 6 69 56 61 88   isprokin@gmail.com   https://iprokin.github.io   https://github.com/iprokin

EXPERTISE   Machine Learning, Statistics, Computer Science, Probability Theory, Computational Neuroscience

EDUCATION

Ph.D. Computational Neuroscience, INRIA Rhône-Alpes   2013 Oct.-2016 Dec., Villeurbanne, France
M.Sc. Physics, University of Nizhny Novgorod   2011-2013, Nizhny Novgorod, Russia
B.Sc. Physics, University of Nizhny Novgorod   2007-2011, Nizhny Novgorod, Russia

- Courses included: Computational Methods, Dynamical Systems, Probability Theory, Calculus, and Linear Algebra.

EXPERIENCE

Data Scientist, Dataswati   2018 Jan.-present, Massy, France

- Predictive models for unevenly sampled time-series with uncertainty quantification (Python).
- Built automated data pipeline: from raw data to automated cross-validation based feature selection to predictions.
- Set up collaborations with academic researchers at INRIA.

Independent Researcher, Self-Employed   2017 Jan.-2017 Dec., Paris, France

- Researched synaptic plasticity exposed to randomized input patterns using Monte-Carlo numerical simulations. Collaboration with researchers at Collège de France and INRIA.

Ph.D. Research, INRIA Rhône-Alpes   2013 Oct.-2016 Dec., Villeurbanne, France

- Developed a Data-Driven Mathematical Model which explained the dependence of synaptic learning on the activity of neurons and experimental conditions. See https://github.com/iprokin/Cx-Str-STDP.
- Worked with various experimental and synthetic datasets: Data Cleaning, Parsing, Transformation and Modeling.
- Numerical Stochastic Simulations of Differential Equations, Parameter Optimization, Sensitivity Analysis.
- Python for Data Analysis (NumPy, SciPy, PANDAS, sklearn, and matplotlib) and Numerical Optimization (PyGMO); Numerical Integration in FORTRAN95 interfaced with Python using f2py (x100 faster than Python+SciPy+NumPy).
- 2 scientific publications (one in *eLife*, top 10% journal in biology/neuroscience), 2 submitted.

Research Internship, RIKEN Brain Science Institute   2013 July-Aug., Saitama, Japan

- 3-D reconstruction of neuronal spines from a stack of two-photon microscopy images in MATLAB.

Graduate Research, Institute of Applied Physics   2011-2013, Nizhny Novgorod, Russia

- Processing 64-dimensional time-series data recorded from neuronal cultures grown on multi-electrode arrays.
- Developed a method for graph reconstruction from the time-series data generated by graph's nodes.
- Time-series correlation and its statistical significance in C++; data manipulation/visualization in MATLAB.

Undergraduate Research, University of Nizhny Novgorod   2009-2013, Nizhny Novgorod, Russia

- Solved numerically Differential Equations based model of a Neural Network with a customized Runge-Kutta in C++.
- 2 international scientific publications describing the model of interacting neurons and an adaptive synapse.

INDEPENDENT PROJECTS (see github)

- Halite II AI Programming Challenge (top 3%).
- Machine Learning powered RSS reader, using Naive Bayes, Python, web-UI.
- Bitcoin price prediction & betting bot; including uncertainty quantification (Python/sklearn/scipy/selenium).
- Py_XPPCALL: Python interface to XPPAUT.
- PokerC, Poker Odds Calculator, Haskell.

SKILLS

- OS: GNU/Linux and OS X (4 years), FreeBSD (3 months), and Windows (14 years).
- Technologies: Python (including SciPy, NumPy, PANDAS, and sklearn) (>40000 SLOC[1]),
  Fortran 90/95 (>3000 SLOC), bash(>2500 SLOC), C/C++ (>15000 SLOC), MATLAB/Octave (>25000 SLOC),
  Haskell (>5000 SLOC), HTML, CSS, LaTeX, SQL; familiar with InfluxQL.
- Languages: Russian (native), English (fluent), French (working proficiency).

AWARDS

- INRIA PhD Fellowship, INRIA, Oct. 2013 - Dec. 2016.
- Best Graduate Research, University of Nizhny Novgorod, Apr. 2013.
- The Dynasty Foundation scholarship, Jan.-June 2013. One of 40 winners out of 149 applicants.
- Research Achievements scholarship, University of Nizhny Novgorod, Jan.-Dec. 2012. 12 out of about 250 students.
- Best Talk award, 16th Radiophysics Conference, University of Nizhny Novgorod, 15 May 2012. 1 out of 14.

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1. SLOC: Source Lines Of Code↵