Oleksandr V. Savenkov

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Professional Experience

Research Associate Scientist, NYU Langone Medical Center, August 2014 - current

- Predictive modeling: Random forests, Regression trees, Generalized additive models, Neural networks, SVM, Sparse linear models.
- Statistical modeling of learning curves: nonlinear mixed effects models
- Bayesian inference

Postdoctoral Associate, Department of Biostatistics, University of Florida, September 2012 - August 2014

- Spatio-temporal modeling of massive cholera outbreak in Haiti: non-parametric estimation (kernel smoothing methods).
- Hand, foot, and mouth disease(HFMD): developed a Bayesian framework for the analysis of surveillance data of infectious diseases. Transmission rates estimation with semiparametric modeling and Markov chain Monte Carlo implementations.
- Develop R package (R and Python) for survival analysis of epidemic data: semiparametric relative-risk regression and non-parametric survival analysis of infectious disease data.

Research Assistant, Department of Epidemiology, Department of Industrial and System Engineering, University of Florida

- Created time-series models (Generalized Additive Models) to analyze impact of extreme temperature and air pollution on hospital admission with stroke in Florida.
- Extensive use of R and SAS

Teaching Assistant, University of Florida, Department of Statistics, August 2006 - August 2012

- Taught/Assisted with "Introduction to Probability", 'Statistical Computing and Matrix Algebra" (Graduate), "Statistical Methods in Research" (Graduate).

Senior Economist/Economist, Financial department, Raiffeisen Bank, Ukraine, August 2004 - August 2006

- Created, updated and maintained a database for the Financial department (SQL programming)
- Created new reporting forms, performed budgeting and planning.

Education

- **Ph.D. in Statistics**, Department of Statistics, University of Florida, August 2012
  Advisor: Sumuel Wu
  - Research in clinical studies: single subject data analysis.
  - Research in the area of time series: development of new methodology for measure of similarity between time series.
  - Time series analysis of fMRI data: identification of the presence of Parkinson disease.

- **Specialist (Master of Science equivalent) in Mathematics**, Donetsk National University, Donetsk, Ukraine July 2004
  Honor of Excellence Diploma

- **Bachelor of Science in Mathematics with concentration in Financial Mathematics**, Donetsk National University, Donetsk, Ukraine, July 2003
  Honor of Excellence Diploma

Summary of Skills

Statistical Expertise

◇ Spatio-Temporal Modeling, Survival Analysis, Bayesian Data Analysis, Semiparametric Modeling, Mixed effects models

PhD coursework

◇ Generalized Linear Models,Time Series, Markov Chain Monte Carlo, Probability Theory, Stochastic Processes, Statistical Inference, Statistical (Machine) Learning, Survival Analysis, Regression Analysis, Linear Models, Design of Experiments, Advanced Clinical Trials

Programming Languages

◇ R, Python, SQL

Awards and Honors

◇ Research Assistanship (2012)

◇ NSF Fellowship to participate in the workshop on *"Discrete and Nondifferentiable Optimization: Algorithms and Applications"*, Kiev, Ukraine (2010)

◇ Diploma with Honors (2003, 2004)

Professional Membership

◇ American Statistical Association

Editorial Activities

◇ **Reviewer:** Journal of Global Optimization, Journal of Industrial and Management Optimization, PLOS ONE

Refereed Journal Articles

1. F. Skidmore, M. Yang, L. Baxter, K. von Deneen, J. Collingwood, K. White, **A.Savenkov**, D. Korenkevych, K. Heilman, M. Gold, Y. Liu, "Reliability Analysis of the Resting State Can Sensitively and Specifically Identify the Presence of Parkinson Disease" *Neuroimage*, 2011.

2. F. Skidmore, M. Yang, L. Baxter, K. von Deneen, J. Collingwood, R. Tandon, **A.Savenkov**, D. Korenkevych, K. Heilman, M. Gold, Y. Liu, "Apathy, Depression, and Motor Symptoms Have Distinct and Separable Resting Activity Patterns in Idiopathic Parkinson Disease," *Neuroimage*, 2011.

Working Papers

1. **A. Savenkov**, S. Wu, D. Neal, "Testing for Efficacy in Single-Subject Trials with Intervention Analysis" (submitted)

2. **A. Savenkov**, M. V. Pusic, "Mathematics of Learning Curves"

3. **A. Savenkov**, M. Giurcanu, I. Longini "A Point Process Analysis of Cholera Outbreak in Haiti"

4. Y. Yang, **A. Savenkov**, et al. "Bayesian Modeling of Hand, Foot and Mouth Disease Outbreak in China"

5. **A. Savenkov**, M. Yang, "Analysis of Variance with Time Series Data by Cross-Fitting Distance "

Presentations

- ◇ "Testing for Efficacy in Single-Subject Trials with Intervention Analysis", Department of Biostatistics, John Hopkins University (invited)

- ◇ "Analysis of Variance with Time Series Data by Cross-Fitting Distance", Joint Statistical Meetings, Miami, Fl, 2011

- ◇ "Statistical Techniques for Network Optimization Problems Under Uncertainty with CVaR Constraints", 3rd Yalta Optimization Conference, Yalta, Ukraine, 2010

- ◇ "Testing for Efficacy in Single-Subject Trials with Intervention Analysis", Oncology Group, Novartis (invited), 2014