



Łukasz KIDZIŃSKI

Post-doctoral researcher at Stanford University

Professional Experience

- present **Stanford University**, *Postdoctoral researcher*, Stanford, California, United States.
July 2016 Extracting insights and biomarkers from large scale longitudinal observations. Designing new statistical and computational tools for these data. Advisors: Trevor Hastie, Scott Delp
- present **DeepArt UA**, *Co-founder*, Tübingen, Germany.
January 2016 Designing, developing and testing neural style transfer techniques at scale. Releasing models through deepart.io platform, supporting a community of artists leveraging advancements of computer vision in their work.
- June 2016 **EPFL**, *Postdoctoral researcher*, Lausanne, Switzerland.
September 2014 Management and execution of data science projects in CHILI Lab (Computer Human Interaction in Learning and Instruction), supervision of PhD students, research on MOOCs (massive online open courses). Advisor: Pierre Dillenbourg
- September 2014 **DREAM LINEUP LTD**, *Co-founder / Executive*, London, United Kingdom.
June 2012 Development of a data-driven on-line football manager game.
- July 2014 **UC Berkeley**, *Visiting research scholar*, Berkeley, United States.
May 2014 Development of an R package based on my findings in Functional Data Analysis based on Fourier analysis of multivariate time series. Advisor: David Brillinger
- September 2013 **Colorado State University**, *Visiting research scholar*, Fort Collins, United States.
July 2013 Research project on regression in functional time series context. Applications to financial and geospatial data. Advisor: Piotr Kokoszka
- September 2011 **ETH Zürich**, *Internship in the machine learning group*, Zürich, Switzerland.
July 2011 Development of online tools for comparison of machine learning methods within mloss.org and mldata.org. Advisor: Cheng Soon Ong
- June 2011 **LEMONET**, *Co-founder / Developer*, Warsaw, Poland.
October 2007 Co-founder of nogazpolaka.pl - an online market with exclusive educational materials for polish Matura exam in years 2005-2014. Founder and developer of neib.org - a recommender system for venues.

Education

- 2011 – 2014 **PhD in statistics**, *Université libre de Bruxelles*.
Thesis: Inference for stationary functional time series: dimension reduction and regression
Advisor: Siegfried Hörmann.
- 2005 – 2011 **M.S. in Mathematics**, *University of Warsaw*.
Thesis: Statistical foundations of recommender systems,
Advisor: Hung Son Nguyen.

- 2006 – 2010 **M.S. in Computer Science**, *University of Warsaw*.
Thesis: Application of the language Objective-C in mobile development, case study,
Advisor: Janusz Jabłonowski.

Certificate programs

- Winter 2017 **Stanford Ignite program**, *Stanford Graduate School of Business*.
Frameworks for identifying and evaluating hi-impact ideas.
- 2010 – 2011 **ERASMUS exchange program**, *Vrije Universiteit Brussel*.
European “study abroad” program. Courses in computer science and statistics.

Honors, awards and grants

- 2017 Funds raised from Amazon AWS and NVIDIA for organizing the “Learning to run” NIPS challenge (100,000USD)
- 2016 Distinguished Postdoctoral Fellow Scholarship (140,000 USD), from the Mobilize Center at Stanford
- 2015 IBM Global Entrepreneur for Cloud Startups (120,000 USD), jointly with Matthias Bethge, Alexander Ecker, Leon Gatys and Michał Warchol
- Swiss NSF grant for the project “Learning Analytics for Adaptive and Self-Improving Learning Environments” (~355,000 USD), jointly with Pierre Dillenbourg
- 2014 Research grant for a visit in UC Berkeley
- 2011 PhD scholarship within ARC grant, Robust Static and Dynamic Dependence Models PASCAL Group fellowship for the internship at the ETH Zürich
- 2007 Scholarship from the University of Warsaw for top students
- 2005 Participant in the 2nd round in Polish Olympiad in Mathematics
- 2002 – 2005 Participant in the 2nd round in Polish Olympiad in Informatics (4 times)
- 2002 Laureate of a computer science olympiad for gymnasiums LOGIA
- 1998 Finalist of junior polish chess championships

Journal publications

- 2017 Kidziński, Ł., and Hastie T. **Sparse longitudinal modeling using matrix factorization** (work in progress)
Kidziński, Ł., Kokoszka M. and Jouzdani N. **Principal component analysis of periodically correlated functional time series**. (under review in Journal of Time Series Analysis, arXiv:1612.00040)
- 2016 Hörmann, S. and Kidziński, Ł., **A note on estimation in Hilbertian linear models**. (Scandinavian Journal of Statistics, arXiv:1208.2895)
- 2015 Hörmann, S., Kidziński, Ł. and Halin M., **Dynamic Functional Principal Component**. (Journals of the Royal Statistical Society Series B, arXiv:1210.7192)
- 2014 Hörmann, S., Kidziński, Ł. and Kokoszka M., **Estimation in functional lagged regression**. (Journal of Time Series, available at colostate.edu)

Conference papers

- 2017 Prieto L., Sharma, K., Kidziński and Dillenbourg, P. **Orchestration Load Indicators and Patterns: In-the-wild Studies Using Mobile Eye-tracking** (submitted to IEEE Transactions on Learning Technologies)

- 2016 Kidziński, Ł., Giannakos, M., Sampson, DG. and Dillenbourg, P. **A tutorial on machine learning in educational science** (State-of-the-Art and Future Directions of Smart Learning)
- Liu, W., Kidziński, Ł. and Dillenbourg, P. **Semiautomatic Annotation of MOOC Forum Posts** (State-of-the-Art and Future Directions of Smart Learning)
- Li, N., Kidziński, Ł. and Dillenbourg, P. **Augmenting Collaborative MOOC Video Viewing with Synchronized Textbook** (Human-Computer Interaction-INTERACT)
- Li, N., Kidziński, Ł., Jermann, P. and Dillenbourg, P. **MOOC Video Interaction Patterns: What Do They Tell Us?** (Design for Teaching and Learning in a Networked World)
- Li, N., Kidziński, Ł., Jermann, P. and Dillenbourg, P. **Characterising MOOC Video Behaviours with Video Interaction Styles: What do they tell?** (Proceedings of the 10th European Conference on Technology Enhanced Learning), (**BEST PAPER AWARD**)
- Delher, J., Kidziński, Ł., Alavi, H. and Dillenbourg, P. **Gamified Competition Features for Corporate MOOCs: The Battle Mode** (Proceedings of the European MOOCs Stakeholder Summit 2016)
- Sharma, K., Kidziński, Ł., and Dillenbourg, P. **Towards Predicting Success in MOOCs: Pro-gramming Assignments** (Proceedings of the European MOOCs Stakeholder Summit 2016)
- Dillenbourg, P., Li, N. and Kidziński, Ł., **Complications of the orchestrational clock** (From Books to MOOCs? Emerging Models of Learning and Teaching in Higher Education)
- Faucon, L., Kidziński, Ł. and Dillenbourg, P., **Generative models for simulating MOOC students** (Proceedings of the 9th International Conference on Educational Data Mining)
- Kidziński, Ł., Sharma, K. and Dillenbourg, P. **On generalizability of MOOC research** (Proceedings of the 9th International Conference on Educational Data Mining)
- 2015 Li, N., Kidziński, Ł., Jermann, P. and Dillenbourg, P. **How Do In-video Interactions Reflect Perceived Video Difficulty?** (Proceedings of the European MOOCs Stakeholder Summit)
- Raca, M., Kidziński, Ł. and Dillenbourg, P. **Translating Head Motion into Attention-Towards Processing of Student's Body-Language** (Proceedings of the 8th International Conference on Educational Data Mining)

Other conference talks

- 2017 **Learning to Run NIPS challenge.**
- NIPS conference competition track, Los Angeles (CA, USA), December 2016
 - Mobilize Center seminar, Stanford (CA, USA), October 2016
- 2016 **DeepArt.io project.**
- Dato Conference, San Francisco (CA, USA), July 2016
 - CTI pitch competition, Lausanne (Switzerland), June 2016; **best pitch award**
 - Invited talk, University of Warsaw (Poland), May 2016
 - Invited talk, University of Ghent (Belgium), May 2016
 - Invited demo, NVIDIA GTC Conference, San Jose (CA, USA), April 2016

- 2014 **Learning Analytics.**
- A series of lectures on modern statistical tools for education at scale, EPFL, Lausanne (Switzerland), September 2014
- 2013 **Frequency domain methods for functional time series.**
- Invited talk, Fort Collins (Colorado, USA), August 2013
- Dynamic Functional Principal Components.**
- German-Polish Joint Conference on Probability and Mathematical Statistics, Toruń (Poland), June 2013
 - PhD Day. Bruxelles (Belgium), May 2013
- L'analyse de données fonctionnelles.**
- Journée de la science, 10 minutes pour comprendre, Bruxelles (Belgium), April 2013
- 2012 **Estimation in Hilbertian linear models.**
- Belgian Statistics Society Meeting, Liege (Belgium), October 2012
 - PhD Day. Louvain (Belgium), September 2012
 - Workshop on high dimensional and dependent functional data, Bristol (United Kingdom), September 2012

Organizations

- present **eWear students society**, *Co-founder*, Stanford, California, United States.
 September 2016 Bringing together industrial and academic stakeholders from the domain of wearable technologies. Organized Stanford wearable symposium in September 2017
- present **AI Entrepreneurs Club**, *Member*, Stanford, California, United States.
 September 2016 Fostering discussion between artificial intelligence researchers and venture capitalists interested in real world AI products and innovation.

Other scientific contributions

- Reviewer for Journal of Multivariate Analysis, Computational Statistics and Data Analysis, Econometrics and Statistics, Electronic Journal of Statistics, Statistics and Probability Letters, Journal of Computing in Higher Education, Journal of Educational Data Mining, Computer-Human Interaction conference and other.
- Popular media **Learning to Run NIPS challenge, 2017.**
 News articles (links): [Tech Crunch](#), [IEEE news](#), [EPFL news](#), [NVIDIA dev blog](#), [AWS AI blog](#), [China Daily](#), [Stanford news](#) and other.
- DeepArt.io project, 2016.**
 News articles (links): [Technologist](#), [Live Science](#), [Education times](#), [Futura Science](#), [24heures](#), [Le temps](#), [EPFL news \(video\)](#) and other.

Teaching

- fall 2014 & 2015 Digital education and learning analytics, EPFL
 spring 2014 Analyse Multivariée, exercise sessions, ULB (in french)
 fall 2012 & 2013 Stochastic Models, exercise sessions, ULB

Computer skills

- Data analysis R, Matlab, Mathematica
 Scientific comp. MPI, torch, tensorflow, keras, CUDA
 Programming C, C++, Java, Python, SQL
 Frameworks Spring, Django, OpenGL, OGRE

Electronics Microcontroller programming
System design UNIX, Amazon AWS
Design Adobe photoshop, Blender

Languages

English full professional competence
French full professional competence *C1 equivalent certificate*
Polish native speaker
German notions *level A2*

Selected projects

- R packages <https://cran.r-project.org/web/packages/freqdom/index.html> - package for applying spectral methods to multivariate time series (part of the PhD project); R
<https://cran.r-project.org/web/packages/freqdom.fda/index.html> - wrapper around the “freqdom” package for applying frequency domain methods in functional data analysis; R
<https://cran.r-project.org/web/packages/pcdpca/index.html> - package for processing periodically correlated multivariate time series; R
- 3d simulations <https://github.com/stanfordnbl/osim-rl> - reinforcement learning environment for finding motor control patterns. Demo: <https://www.dropbox.com/s/44q1r560suzookg/1step.mp4?dl=0> ; python
<https://www.youtube.com/watch?v=kawwoEJUFk> - HEPI 3d messenger, bachelor thesis in Computer Science (joint project with P. Bedyński and A. Matan); C++, ogre 3D, OpenGL
- Online platforms <http://deepart.io/> - application of deep learning algorithms to repaint pictures in the style of a selected artist; python. More information: <https://www.youtube.com/watch?v=olj6rktnr40>
<http://mldata.org/> - repository of machine learning datasets and algorithms, contribution during the visit at the ETH Zurich; (source code and my contributions), <https://github.com/open-machine-learning/mldata/graphs/contributors>
<http://sweetrs.org/> - sweets recommender system, an experiment for the master thesis in Computer Science; python, django (source code <https://github.com/kidzik/sweet-recommender-system>)
<http://neib.org/> - venue recommender system, part of the master thesis in Computer Science; python, java script, Objective-C, Matlab (source code <https://bitbucket.org/dziki/neib>)
- Other projects <http://kidzinski.com/> - personal homepage with links to other projects