Nil-Jana Akpinar

Ph.D. Student in Statistics and Machine Learning

https://nakpinar.github.io/ nakpinar@andrew.cmu.edu
linkedin.com/in/nil-jana-akpinar @niljanaakpinar

RESEARCH INTERESTS

My research interests lie in statistical methodology, machine learning in high-stakes decision settings, and fairness, accountability and transparency in machine learning.

EDUCATION

Carnegie Mellon University **Pittsburgh, PA**
Ph.D. in Statistics and Machine Learning (joint), current GPA: 4.0/4.0 *Aug 2018 - May 2023*
Advisors: Alexandra Chouldechova and Zachary Lipton

Carnegie Mellon University **Pittsburgh, PA**
M.S. in Statistics, GPA: 4.0/4.0 *Aug 2018 - May 2020*

University of Freiburg **Germany**
M.S. in Mathematics *Oct 2015 - July 2018*
Thesis: Heuristic Solvers for Edge Clique Cover Graph Problems Based on Deep Neural Networks

University of Freiburg **Germany**
B.S. in Economics *Oct 2013 - Sept 2017*
Thesis: The Role of Sentiment and Cultural Differences in the Communication Process of e-Negotiations

University of Freiburg **Germany**
B.S. in Mathematics *Oct 2012 - Sept 2015*
Thesis: The p-adic Logarithm and Brumer's p-adic Version of Baker's Theorem

PUBLICATIONS

- **Akpinar, N.-J.**, Chouldechova, A. (2021) The effect of differential victim crime reporting on predictive policing systems. Conference on Fairness, Accountability, and Transparency (FAccT 2021).
- **Akpinar, N.-J.**, Ramdas, A. and Acar, U. (2020) Analyzing Student Strategies In Blended Courses Using Clickstream Data. Thirteenth International Conference on Educational Data Mining (EDM 2020).
- **Akpinar, N.-J.**, Kratzwald, B. and Feuerriegel, S. (2020). *Sample Complexity Bounds for Recurrent Neural Networks with Application to Combinatorial Graph Problems.* Thirty-Fourth Conference on Artifical Intelligence (AAAI 2020) (Student Abstract).
- **Akpinar, N.-J.** and Feuerriegel, S. (2017). *A Model-free Solver for Arbitrary Graph Problems: Predicting Solutions With Deep Learning.* Presentation at INFORMS annual meeting, Houston TX.
- **Akpinar, N.-J.**, Alfano, S., Kersten, G. and Yu, B. (2017). *The Role of Sentiment and Cultural Differences in the Communication Process of e-Negotiations.* In: Group Decision and Negotiation: A Socio-Technical Perspective (GDN 2017), p.132-144.

HONORS & AWARDS

- Amazon Graduate Research Fellowship (2021)
- Invited to FAccT Doctoral Consortium (2021)
- AAAI best three minute student presentation award (2020)
- Research visit grant by the German National Academic Foundation (2016)
- Full study scholarship by the German National Academic Foundation (2013 - 2018)
- Economics Award by Südwestmetall (2012)
- Mathematics Award by the German Mathematical Society (2012)

EXPERIENCE

Carnegie Mellon University **Pittsburgh, PA**
Graduate Researcher (ACMI lab) *since Aug 2018*
- Research focuses on algorithmic fairness and machine learning in high-stakes decision settings.
- Advisors: Alexandra Chouldechova and Zachary Lipton

LinkedIn Corporation **Sunnyvale, CA**
Artificial Intelligence - Machine Learning Engineering Intern *May 2021 - Aug 2021*
- Research on long-term dynamics of fairness enhacement in two-sided marketplace settings.
- Manager: Sakshi Jain (Responsible AI team)

LinkedIn Corporation **Sunnyvale, CA**
Fairness and Privacy Research Engineering Intern *May 2020 - Aug 2020*
- Developed methods for data anonymization and built a machine learning pipeline for Named Entity Recognition.
- Manager: Ting Chen (Anti-Abuse team)

University of Freiburg **Germany**
Research Assistant *Apr 2016 - July 2018*
- Data analysis in R, preparation of teaching materials and homeworks, literature reviews and editing research papers.
- Department: Information Systems Research Department

Concordia University **Montréal, Canada**
Visiting Scholar *Sept 2016 - Nov 2016*
- Research on communication patterns in electronic negotiations.
- Faculty: Prof. Gregory Kersten (Concordia University) and Prof. Dirk Neumann (University of Freiburg)

TEACHING AND MENTORSHIP

Carnegie Mellon University & Giant Eagle **Pittsburgh, PA**
Data Science Initiative Fellow *Jan 2020 - May 2020*
- Mentored five undergraduate students in corporate data science consulting project with supermarket chain Giant Eagle.
- Methods: Feature engineering, logistic regression, random forests

Carnegie Mellon University & Penguin Random House **Pittsburgh, PA**
Data Science Initiative Fellow *Aug 2019 - Dec 2019*
- Advised four undergraduate students in a corporate consulting project with the book publisher Penguin Random House.
- Methods: Generalized additive models, clusering, logistic regression, random forests

Carnegie Mellon University **Pittsburgh, PA**
Teaching Assistant *Aug 2018 - May 2020*
- Department of Statistics and Data Science: Statistical Graphics and Visualization (head TA), Text Analysis, Advanced Methods for Data Analysis, Probability Theory for Computer Scientists

University of Freiburg **Germany**
Teaching Assistant *Apr 2014 - Jul 2018*
- Department of Mathematics: Linear Algebra, Mathematics for Students of Natural Sciences, Introduction to Programming
- Information Systems Research Department: Management Information Systems, Introduction to Programming in R

INVITED TALKS

- AMS Sectional Meeting (Special Session on Social Change In and Through Mathematics and Education) (2021)
- Guest lecture on Word Embeddings in Text Analysis class, CMU (2019)

SELECTED PRESS

- *Predictive policing is still racist—whatever data it uses*, MIT Technology Review (2021)

SERVICE

- Reviewer:
  - Neurips 2021
  - ICML 2021, Workshop ML4Data: Automated Creation, Privacy, Bias
- Area chair:
  - ICLR 2021, Workshop Responsible AI
- Organizer of the Fairness, Ethics, Accountability and Transparency reading group at CMU (since 2021)
- Editor of the ML@CMU blog (since 2021)
- Board member of CMQ+, the LGBTQIA+ and allies graduate student group at CMU (2019-2020)
- Three times elected Member of the Faculty Council, School of Mathematics and Physics, University of Freiburg (2015 - 2018)
- Elected Member of the Senate, University of Freiburg (2015)
- Member of the student council, Department of Mathematics, University of Freiburg (2013 - 2018). Includes member of the examination board and faculty appointment committees.

PROGRAMMING

- **Languages:** Python, R, LaTeX
- **GitHub:** `https://github.com/nakpinar`

LANGUAGES

- **Native / Fluent:** German, English
- **Basic / Beginner:** Turkish, Spanish, French

Last Updated: June 2021