Denis Kazakov

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EXPERIENCE

Columbia Journalism School – **Data Science Consultant** New York, NY; Denver, CO | Nov 2019 – Mar 2020
- Studying the impact of differential privacy on the US Census accuracy (newscounts.org).
- Designed and implemented a scalable census reconstruction pipeline following Census Bureau's recommendation.

Amazon, Alexa AI – **NLU Applied Scientist** Boston, MA | Oct 2018 – Oct 2019
- Fixed accuracy gap reporting, improved modeling change impact assessment through evaluation metric debiasing methodology. Worked with science and business teams to define requirements. Presented up to VP level.
- Researched active learning prioritization methods to improve data annotation efficiency by 23%.
- Researched and developed a graph based semi supervised learning framework to resolve Alexa defective utterances.

Michael Mozer's ML Lab – **Research Assistant** Boulder, CO | Apr 2016 – Jul 2018
- Improved recurrent neural networks (RNN) convergence on well-formed hidden representations by using attractor dynamics.
- Helped design a RNN cell architecture for time series processing by using Hawkes point process dynamics to represent cell memory.

hackNY fellow at Chartbeat – **Product & Data Science Intern** New York, NY | June 2017 – August 2017
- Refined automated content-readership-reports for clients by developing a latent-representation-based article neighbor search.
- Reduced the HTML page text extractor pipeline failure rate by 80% after integrating complimentary extractors.

Uber – **Machine Learning Intern** Louisville, CO | June 2016 – August 2016
- Developed a traffic light detector and 3D positioning for Uber ATG by using deep learning and camera sightings.
- Researched transfer learning to improve robustness of internal methods.

Standard & Poor's – **Product & Software Architecture Intern** New York, NY | June 2015 – August 2015
- Exponentially improved information accessibility by designing an internal data explorer tool to analyze financial data spreadsheets.

ioSemantics – **Software Engineering Intern** Golden, CO | June 2014 – August 2014
- Developed a Java platform to wrap a language interpreter.

Elizabeth Bradley's Lab – **Research Assistant** Boulder, CO | Oct 2013 – May 2014
- Helped to show that CPUs exhibit chaotic behavior by using delayed coordinate embedding on computer activity traces.

SKILLS

- **Product Management**: Gantt chart planning, market/customer research, Lean startup, solution/system design, UML
- **Data Science/ML**: deep learning, NLP, graphs, research design, Keras, TensorFlow, Spark, data visualization, AWS, A/B testing, SQL/NoSQL, spaCy, NetworkX
- **Languages**: Python, R, Java
- **Development**: Agile, Jira, CI/CD, Docker, Linux, git

PROJECTS

Design Reading Group Dec 2019 – current
Started a remote meetup to discuss design of things and systems.

PerfectFit ($1^{st}/30$ **teams at NVC9: IT track**) – entrepreneurship Dec 2016 – Apr 2017
Designed a solution that addressed a $16.9 billion online apparel sales return cost. Interviewed shoppers, collaborated with store managers to identify pain points, researched the market and competition, designed an ML based prototype to reduce size and fit uncertainty in online shopping.

Customer Insights – product prototype Oct 2015 – Feb 2016
Built a market research tool to automatically group text reviews into discussion points.

Howard (New Venture Challenge 7) – entrepreneurship Oct 2014 – Apr 2015
Built a web platform to connect private R&D sector with relevant academic researchers.

EDUCATION & PUBLICATIONS

University of Colorado, Boulder

MS in Applied Math | GPA: 3.8
- **Thesis**(advised by M. Mozer): *State Denoised Recurrent Neural Networks.* arXiv:1805.08394
- A. Lamb, J. Binas, A. Goyal, S. Subramanian, I. Mitliagkas, D. Kazakov, Y. Bengio, M. Mozer. *State-Reification Networks: Improving Generalization by Modeling the Distribution of Hidden Representations* (ICML'19)
- M. Mozer, D. Kazakov. *Construction of Actionable Representations.* (invited talk, NIPS'17: Cognitively Informed AI workshop)
- **Teaching Assistant** for: CSCI 5922 (Neural Networks & Deep Learning), APPM 1350 (Calculus 1)

BS in Applied Math | **BS in Computer Science** | Engineering Leadership Certificate | GPA: 3.9
- **Thesis**(advised by M. Mozer): *Incorporating Hawkes Process Memory into Neural Network Models.* arXiv:1710.04110
- M. Mozer, D. Kazakov, R. Lindsey. *Neural Hawkes Process Memory.* (invited talk, NIPS'16: RNN Symposium workshop)