Julian Schlenker Vanecek

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Projects

Neural Networks with Pytorch, Tensorflow: Transformer networks, LSTM networks, convolution networks, predictive attention networks, image classification, text classification on Reddit dataset (predict depression & suicide risk)

Natural Language: Topic modeling, narrative tracking, NL-understanding NE-masking experiments on transformers, temporal classification from word vectors for question answering -- distill latent vector representations for years words refer to, question answering from summary paragraphs using LSTMs

Reinforcement learning: (Game theory) optimizing online kidney exchange chains, (Graphics) improved ray tracing image rendering time

Security: Metamorphic Virus detector with Markov chains, TCP injection implementation

Personal Projects: Scraping sentiments of major news organizations & journalists (incl. databases & visualization), visualize diverging trends with NE Recognition, fine-grained sentiment analysis; tools to self-collect sentiment dataset; Russian Propaganda on Twitter investigation, Language learning app

Skills

Programming: Python, Linux / Bash, Java, Javascript, Pytorch, Tensorflow, C++, SQL/NoSQL, R, Scala; SVN, GIT, JUnit; REST; Scikit-learn, Pandas, Numpy, Scipy

Languages: English, German (conversational), Russian (beginner), Czech (beginner)

Experience

Teaching Assistant, University Maryland | 2017 – Present
Java, Networking, Threading, Data Science

Research Assistant, University Maryland, Prof. Carol Espy-Wilson | May 2019 – May 2020
Automatic flagging of company's service calls, emotion detection & word classification, speech (as spectrogram) & text joint model. I found the model architecture from comparing deep vs. "traditional" models

Intern High School Teacher, *Dom Gymnasium*, Magdeburg, Germany | Feb 2016 – Jul 2016
Developed curriculum and taught computer science and math to 12 -17 year olds

Fellow, *CBYX for Young Professionals*, Magdeburg & Saarbrücken, Germany | Jul 2015 –Jul 2016
Congressional exchange program, incl. university and internship

Programmer, *'Percy'*, Gilroy, California | May 2015 – Jun 2015
Extended natural language parser, English language knowledge model in Scala

Webmaster, *Beloit College* | May 2013 – May 2015
Developed interactive content for a first year Russian textbook companion website, HTML, Javascript

Education

UMD College Park, PhD Track, Computer Science Fall 2017 – Present

Classes: Computational Linguistics I, II; Natural Language Understanding; Computer Vision; Neural Modeling; Computer/Network Security; Numerical Optimization; Computer Graphics; Social Mechanism Design; Human Computer Interaction; Human Computer Interaction; Bitcoin seminar; Russian Disinfo.

UW. Madison, Spring 2017
Artificial Intelligence Algorithms, Statistics

Otto von Guericke University (Audited), Magdeburg, Germany, Oct 2015 – Jan 2016

Beloit College, Beloit, WI, August 2012 – May 2015
B.A. Computer Science, Russian minor, Summa Cum Laude, Phi Beta Kappa