Justin Payan

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Education

University of Georgia (3.95/4.0 GPA) - Athens, GA — August '13 – May '17
B.S. Mathematics, A.B. Cognitive Science & M.S. Artificial Intelligence
-Thesis: *Keyphrase Extraction from Scientific Literature Using Joint Geometric Graph Embedding Based Matching*
-Foundation Fellow Scholarship-Full attendance cost, travel-study/research funding
-National Merit Scholarship, Zell Miller Scholarship, Presidential Scholar, Phi Kappa Phi, Phi Beta Kappa

Study Abroad at the University of Edinburgh - Edinburgh, UK — September '16 – December '16
-Machine learning, number theory, network theory, differential equations

Foundation Fellows Spring Travel-Study - Various — March '14 – March '16
-Studied culture in Havana, Cuba and Buddhist monasticism in South Korea

UGA at Oxford University Maymester - Oxford, UK — May '14
-Studied dystopian literature with Dr. David Bradshaw of Oxford's Worcester College

Experience

HPE Vertica - Cambridge, MA — May '16 – July '16 & June '17 – present
-Implement distributed machine learning algorithms in SQL and C++, including k-means++
-Design, build, and maintain data preprocessing functions, such as one-hot encoding, normalization, and missing value imputation
-Aided development of an internal memory management API, enabling some of Vertica's algorithms to execute faster than in Apache Spark

Robert Bosch Centre for Cyber-Physical Systems - Bangalore, India — June '15 – August '15
-Predicted pressure in water distribution networks using artificial neural networks
-Investigated SVM, ANN, and random forest tool for locating leaks in water distribution networks

Cortical Architecture Imaging and Discovery Laboratory - Athens, GA — August '14 – May '15
-Explored applications of information theory and time series analysis to EEG data
-Presented papers on cross-frequency coupling in neural oscillations to lab members and to collaborators at Augusta University

Course Projects (Github) - Athens, GA — August '13 – May '17
-Poetry generation, topological data analysis, convolutional neural networks for relation extraction, community similarity metrics in complex networks, POMDP-based dialog management

Publications

International Symposium on Lowland Technology - Mangalore, India — September '16
Rajakumar, A.G., Kumar, S.K.R., Payan, J., and Kumar, M.S.M. *Artificial Neural Network Based Water Network State Estimation Tool for Bangalore Inflow System*. In Proceedings of the 10th International Symposium on Lowland Technology, September '16.

Conferences and Presentations

UGA Center for Undergraduate Research (CURO) Symposium - Athens, GA — April '16
Compared artificial neural networks and a variant of Google's PageRank algorithm for keyphrase extraction in scientific literature

I attended Re.Work Deep Learning Summit 2016 and Southern Data Science Conference 2017 as a participant.

Skills and Interests

Natural languages: English *(native)*, Chinese *(conversational)*, and Spanish *(conversational)*
Programming (in order of proficiency): C++, Python, SQL, Java, Git, Unix/Bash, MATLAB, C, Prolog, R
Academic Interests: Natural language processing, machine learning, AI ethics, graph/network theory
Personal Interests: Rock climbing, acting, theatrical lighting design, organic gardening, hiking, reading