DANIEL SCHWARTZ

Deep Learning Researcher

thedanielschwartz@gmail.com
linkedin.com/in/thedanschwartz
github.com/dsbuddy
cs.drexel.edu/ des338
(609) 273-9196
Philadelphia, PA

EDUCATION

Ph.D. Computer Science | Drexel University 6/2020 – Present
Advisors: Ali Shokoufandeh, Edward Kim
Research: Deep Learning, Neuroinspired Machine Learning, and Graph Machine Learning

B.S. Computer Science | Drexel University 9/2017 – 6/2020
Summa Cum Laude. Department Award for Outstanding Performance.
Thesis title: *On Computing Generalized Watershed Boundaries of Polygonal Regions in Digital Elevation Models.*

EXPERIENCE

Data Scientist | Dell Boomi - Chesterbrook, PA 4/2019 – Present

- Collaborate with CTO to design intelligent services increasing the speed and efficiency of the platform
- File 14 patents related to Deep Learning models trained at the edge and Natural Language Processing
- Develop Convolutional Neural Network with Multilayer Perceptron to classify private identity information
- Create an intelligent crawler to detect and prevent GDPR violations for 200,000 cloud integration processes
- Design a recommendation engine employing facial feedback to learn from users at the edge of mobile devices

Java | Python | Jupyter Notebook | PyTorch | NTLK | Ansible | Maven | BASH | Jenkins

Data Scientist | VyB Technologies - Philadelphia, PA 4/2019 – 6/2020

- Design an adaptive learning algorithm to determine a user's home and work from their location history
- Create a model that predicts users' purchase behavior real time from phone activity with 96% accuracy
- Implement a Deep Convolutional Neural Network to classify and moderate images uploaded to the app

Python | Node.JS | AWS SageMaker | AWS Lambda | AWS Rekognition

RESEARCH

Environmental Data Science | Academy of Natural Sciences - Philadelphia, PA 11/2018 – Present

- Design novel data structure to store intervals that allows fast queries and insertions with minimal storage costs
- Develop innovative algorithms to provide insights into urban surface water flow and agricultural impacts

Python | Docker | BASH | Swagger | Django | PostgreSQL | React

Predictive Respiratory Rate Monitoring | Drexel Wireless Systems Lab - Philadelphia, PA 11/2018 – Present

- Create Machine Learning model to predict respiration rate from stream of RFID multisensory fusion in real time

Python | SciPy | Scikit-learn | Flask | Docker

PUBLICATIONS

[1] J. Carter, J. Rego, **D. Schwartz**, V. Bhandawat, and E. Kim, "Learning spiking neural network models of drosophila olfaction," in *International Conference on Neuromorphic Systems 2020*, ser. ICONS 2020, Oak Ridge, TN, USA: Association for Computing Machinery, 2020, ISBN: 9781450388511. DOI: 10.1145/3407197.3407214. [Online]. Available: https://doi.org/10.1145/3407197.3407214.

[2] S. Haag, **D. Schwartz**, B. Shakibajahromi, M. Campagna, and A. Shokoufandeh, "A fast algorithm to delineate watershed boundaries for simple geometries," *Environmental Modelling Software*, p. 104 842, 2020, ISSN: 1364-8152. DOI: https://doi.org/10.1016/j.envsoft.2020.104842. [Online]. Available: http://www.sciencedirect.com/science/article/pii/S1364815220308999.

[3] S. Hansen, **D. Schwartz**, J. Stover, W. Tajin Md Abu Salehand Mongan, and K. Dandekar, "Fusion learning on multiple-tag rfidmeasurements for respiratory rate monitoring," in *2020 IEEE 20th International Conference on Bioinformatics and Bioengineering (BIBE)*, Accepted.

[4] **D. Schwartz**, Y. Alparslan, and E. Kim, "Regularization and sparsity for adversarial robustness and stable attribution," in *Advances in Visual Computing*, Springer International Publishing, Accepted.

[5] C. Amanatides, S. Hansen, A. S. Levitt, Y. Liu, P. O-Neill, D. Patron, R. Ross, **D. Schwartz**, J. Stover, M. A. S. Tain, G. Dion, A. K. Fontecchio, V. Pano, W. M. Mongan, and K. R. Dandekar, "Wearable smart garment devices for passive biomedical monitoring," in *Signal Processing in Medicine and Biology*, Springer, Accepted.