Roy Jackman

Software/Machine Learning Engineer

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/in/roy-jackman

royJackman

Technical Skills

Overview

- Machine learning
- Full stack development
- Managerial experience
- Fluent in Hebrew
- Conversationally fluent in French

Programming

$0\ LOC \longrightarrow 5000\ LOC$

Python • Keras • Numpy

C++ • LaTeX • MatLab • R

JavaScript • Ocaml • Ruby • Scala

Education

M.S. Computer Science (GPA: N/A)
Thesis Topic: Neural Programming
University of Massachusetts
2018 - 2019 | Amherst, United States

B.S. Computer Science (GPA: 3.7)
Specialization: Artificial Intelligence
B.S. Mathematics (GPA: 3.7)
Specialization: Applied Mathematics
Minor: Linguistics
University of Massachusetts
2015 - 2018 | Amherst, United States

Experience

Dec 2016 - Present — **Research Assistant** Biologically Inspired Neural and Dynamical Systems Lab

- Focused on developing machine learning models, biological computing methods, data visualization, application testing
- Helped build, test, and improve various machine learning methods for higher accuracy and more universally applicable models
- Presented weekly and bi-weekly talks about current and relevant research topics
- Projects: Reservoir computing, Neuromorphic on-chip learning, Intelligent ant colony
- Tools: Python, C, C++, Sci-kit learn, Keras, Tensorflow, Vispy, BitBucket

May 2018 - Aug 2018 — **Software Development Intern** Twist Bioscience

- In a team of 2, built and deployed APIs for efficient mailing, multi-stack variable updating, and pipeline integration
- Coordinated updates in Docker with Kubernetes variables through a custom web API
- Created a documentation generator using Swagger API and Ruby on Rails
- Tools: Python, JavaScript, Ruby on Rails, node.js, react.js, Docker, Kubernetes, Github enterprise, Jira

May 2017 - Aug 2017 — **Research Assistant** Plant Lipid Biotechnology Lab

- Worked with Low-res NMR data and performing analysis using PDCO in Matlab
- On a team of 6, proved correlation between T_1 T_2 spin interactions and various characteristics of a substance
- Published a paper on the findings: Energy Fuels 32, 4, 5090-5102

May 2016 - Aug 2016 — **Software Engineer** Variantyx

- Primarily developed automation and calculation APIs throughout various pipelines
- Projects: Pedigree svg image generator, family connection calculator, Inheritance calculator SalesForce app
- Tools: C, C++, Python, TypeScript, SalesForce

Research

2018 - 2019 **M.S. Candidate, Graduate Research Assistant** UMass Amherst
Thesis: nrn: A Neural Programming Language

- Developed a proposed programming language with logical neural structures as engines
- Proposed reservoir methodology for neural processing
- Built a language parser for the proposed language

2017 - 2018 **Multidisciplinary Honors Final Project** UMass Amherst
Thesis: Sine Circle Mappings in Machine Learning

- Performed complex computation with pseudo chaotic self contained cells built into circuits
- Increased accuracy of reservoir computation method
- Published work to Github pushing for open source

Publications

Z. Wiesman , C. Linder, M. T. Resende, N. Ayalon, O. Levi, O. D. Bernardinelli, L. A. Colnago, C. I. N. Mitre, and R. Jackman, “2D and 3D Spectrum Graphics of the Chemical-Morphological Domains of Complex Biomass by Low Field Proton NMR Energy Relaxation Signal Analysis” in Energy Fuels 32, 4, 5090-5102, 2018.