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Daniel McNeela

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EDUCATION

UC BERKELEY
B.A. in Applied Mathematics
Focus in Computer Science
College of Letters and Sciences
May 2017 | Berkeley, CA

LINKS

Github:// **mcneela**
LinkedIn:// **daniel-mcneela**
Blog:// **mcneela**

SKILLS

HIGH LEVEL

Machine Learning
Deep Learning
Statistics
Natural Language Processing
Reinforcement Learning
Data Visualization
Bioinformatics

PROGRAMMING

Languages
Python • C++ • R
Packages
PyTorch • TensorFlow • Numpy
Scikit-learn • Matplotlib • Pymongo
Databases
MongoDB • Elastic
Tools
Git • Vim • Docker • Bash

RECENT EXPERIENCE

HUMAN LONGEVITY, INC. | Machine Learning Scientist - Oncology Team
February 2019 - Present | San Diego, CA

- Using bioinformatics and deep learning to fight cancer.

MACHINEVANTAGE | Machine Learning Researcher
August 2017 - February 2019 | Berkeley, CA

- Implemented cutting-edge deep learning techniques from current research papers and performed novel research in machine learning.
- Developed novel, in-house statistical method and pipeline for social media analysis.
- Developed in-house algorithms and machine learning models for a diverse set of NLP problems including sentiment analysis, text classification, word embedding, semantic similarity, and word sense disambiguation.
- Used technologies including Python, Pytorch, Tensorflow, Matplotlib, C++, Flask, RESTful APIs, MongoDB, Pandas.

RESEARCH

DESCRIPTION TO CODE | Research with Python, Tensorflow
Developed Spring 2017

- Project for CS 294: Special Topics in Deep Learning
- I investigated the use of LSTMs and Neural Attention Models applied to the dual tasks of generating automatic documentation of Python code and generating working Python code from natural language descriptions of desired program behavior.

PROJECTS

MACHINE LEARNING TUTORIALS | Python, R

- A series of machine learning tutorials featuring implementations of ML algorithms and models in Python and R. Click on a name below to view its corresponding tutorial.

- REINFORCE Policy Gradient Algorithm
- Universal Approximation Theorem for Neural Networks
- Gaussian Mixture Models
- LDA and QDA
- Logistic Regression
- Banach Contraction Principle
- Hopfield Networks
- Manifolds
- Functional Analysis

COURSEWORK

GRADUATE

Measure Theory and Topology
Computational Neuroscience
Special Topics in Deep Learning
NLP Research Seminar
Deep Reinforcement Learning (Self-Study)
Functional Analysis (Self-Study)
Differential Geometry (Self-Study)

UNDERGRADUATE

Algorithms
Data Structures
Machine Learning
Numerical Analysis
Mathematical Logic
Honors Linear Algebra and Diff Eq
Honors Abstract Algebra
Real Analysis
Complex Analysis
Advanced Linear Algebra
Structure and Interpretation of Computer Programs
Computational Linguistics
Neuroscience

ADDITIONAL EXPERIENCE

GOOGLE SUMMER OF CODE 2016 | Software Engineer Intern

May 2016 – Aug 2016

- Worked with the International Neuroinformatics Coordinating Facility to develop tools for scientific visualization using Matplotlib and Plotly.
- Rewrote the core module using object-oriented principles, paring thousands of lines of code down to an equivalent few hundred.
- Implemented and created visualizations of a variety of neural computational models such as the Hopfield Network, Restricted Boltzmann Machine, and McCulloch-Pitss Neurons.
- Implemented the Sammon Mapping non-linear dimensionality reduction algorithm, and provided visualizations for the Locally Linear Embedding algorithm.
- Wrote clear, robust documentation of the package API.

ELITE EDUCATIONAL INSTITUTE | Mathematics Instructor

May 2016 – Aug 2016

- Tutored high school students in mathematics subjects ranging from pre-algebra to calculus.
- Offered test prep for the SAT, ACT, and ISEE.
- Created engaging and collaborative lesson plans for students and worked to develop new educational materials and teaching methods.