Zirui Deng

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Github: https://github.com/ZiruiDeng   *LinkedIn: https://www.linkedin.com/in/deng-zirui-583356171/*
Blog post: https://sql617843007.wordpress.com/2020/11/24/nosql-vs-sql-who-is-better-today/

EDUCATION

Emory University   **Atlanta, Georgia**
B.S. in Applied Mathematics and Statistics & B.S. in Computer Science   Expected May 2021
·**GPA:**3.8 / 4.0
·**Relevant Coursework:** Deep Learning, Machine Learning, Numerical Analysis, Multi-variable Calculus, Linear Algebra,
  Linear Optimization Theory, Non-linear Optimization, Partial Differential Equations, Probability & Statistics, Discrete
  Structures, Data Structures and Algorithms, Database Systems, Systems Programming

EXTRACURRICULAR ACTIVITIES/PROJECT EXPERIENCE

Deep Learning Project: Multi-variate Neural Ordinary Differential Equations for Time-series Modeling
                                                                                                                        Atlanta, Georgia
Remote from Emory University   May 2020 – July 2020
·Implemented various models and techniques of deep learning (Batch normalization, CNN, GRU, LSTM, etc.) and their
  applications to areas like computer vision and natural language processing
·Thoroughly absorbed crucial concepts from key papers on recent areas of deep learning algorithmic development such as
  neural ODEs and momentum contrast for unsupervised learning
·Performed data augmentation on time-series data sets and then defined contrastive loss on the augmented data examples
·Successfully implemented momentum contrast on the augmented time-series data and achieved experimental results
  comparable to their counterparts in the original MoCo paper

MCM/ICM Contest 2020   **Atlanta, Georgia**
Emory University   Jan 2020 – April 2020
·Developed mathematical model to estimate maximum levels of single-use or disposable plastic product waste that can safely
  be mitigated without further environmental damage
·Conducted extensive research to obtain sufficient data and tested the effectiveness of our model using Matlab
·Discussed the extent to which plastic waste can be reduced to reach an environmentally safe level and set the target for the
  minimal achievable level of global waste using the above model and discussion
·Discussed the equity issues that might arise from the global crisis and presented intended solutions
·Received Honorable Mention as Certificate of Achievement

Machine Learning Project on Credit Card Fraud   **Atlanta, Georgia**
Emory University   Nov 2019 – Dec 2019
·Utilized credit card fraud dataset from Kaggle competition and chose recall score and area under the precision-recall curve
  (AUPRC) as model assessment metrics
·Applied different machine learning classification models to the dataset and computed metrics scores and plotted precision-
  recall curves of the models
·Compared results of models and analyzed reasons why some models performed at a higher level than others from aspects of
  dataset and model algorithms
·Reflected upon limitations of the approach and acknowledged the possibility of future work to gain more precise and
  comprehensive outcomes
     Link: https://drive.google.com/drive/folders/1T06JpstXWo0Bp7mjQhbi-Up7-Bjo7hMX

Harvard Machine Learning Online Research Course   **Atlanta, Georgia**
Emory University   July 2019 – August 2019
·Explored deeply into the key concepts of machine learning during lectures by Harvard professors and implemented core
  machine learning algorithms in lab sessions
·Successfully fit proper models to make reasonable predictions for real-life problems such as bike sharing usage and cancer
  classification
·Conducted group presentation about the results attained from model fitting and reflected on which models were more
  suitable as well as how to further improve our models in future research

·Received recommendation from professor and course mentor

INTERNSHIP

Data Analyst Internship   **Nanjing, China**
China Telecom   May 2019 – June 2019
·Explored Python crawler technology and deeply understood how to use selenium to achieve automatic login to websites
·Actively participated in the research of the company's financial robot project through firstly getting familiar with the rules of operating the robot and their sample code implementations and then successfully writing code modules corresponding to the rules

Investment Analyst Internship   **Shanghai, China**
Ten Billion Research Laboratory in Shanghai   May 2018 – June 2018
·Conducted extensive research on various types of blockchain programs, computed SWOT analysis and prepared rating
 reports on the programs
·Interviewed blockchain leaders, sorted out interview notes and composed summaries and reports on the discussions
·Participated in weekly discussion meetings on current and future trends of the blockchain industry
·Received the recommendation letter from the supervisor at the end of the internship period

EXTRACURRICULAR ACTIVITY

Mind Bubble Volunteer   **Atlanta, Georgia**
AMC North Dekalb 16   February 2018 – May 2018
·Coordinated one-on-one study sessions with local middle school students and helped them with problems on mathematics,
 vocabulary, etc.
·Engaged students in entertaining board games (*uno*, *spyfall*, *dixit*) after study sessions
·Exchanged teaching experience with fellow mentors and modified teaching strategies for better learning experience on the
 part of the students

ADDITIONAL INFORMATION

Languages: Fluent in English and native language
Technical Skills: Java, Python,Matlab, R, Excel, C/C++, LaTeX
Activities: Bilingual Reading Project, Dongrun-Yau Science Awards
Interests: Basketball, Weiqi---amateur 5 grade in Weiqi, national second-level athlete in Weiqi