Giancarlo Sirio

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EDUCATION

Boston University May 2022
Bachelor of Arts in Computer Science
***Selected Coursework*:** Data Structures, Algorithms, Computer Systems, Statistics, Multivariable Calculus, Linear Algebra, Data Science, Probability, Linear Models, Machine Learning, Deep Learning, Computational Audio

SKILLS

***Technical*:** Python (6 years), R, C/C++, JavaScript, OCaml, git, LaTex, TensorFlow, Pytorch, NumPy, GCP, Docker, GNU/Linux, Kubernetes, Librosa
***Language**:* Fluent in Spanish (Native), Conversational in Italian

EXPERIENCE

Georgia Institute of Technology, S.U.R.E. Summer Researcher May 2021 - July 2021
- Collaborated with researchers to create a system to aid speech pathologists diagnose Autism Spectrum Disorder
- Implemented research papers, read documentation, trained deep learning models, and expanded code base
- Won 1st place for best power-point presentation competing against other student researchers

Royal Bank of Canada, QTS Summer Analyst June 2020 - August 2020
- Scraped and modeled trade surveillance data to help build company's new data lake infrastructure
- Competed in machine learning contest with intern group to implement a Bitcoin price prediction model

Boston University CAS On-Campus Internship, CS Ambassador September 2019 - December 2019
- Proposed, coordinated, advertised, and executed regular workshops for undergraduate computer science students
- Collaborated with computer science department professors to create events that best benefit undergraduate students

PROJECTS

Deep Learning for Question Detection May 2021 - August 2021
- Developed classifiers to detect when a question was uttered given a noisy audio signal of a spoken conversation
- Trained Recurrent Neural Networks (LSTM, GRU), and Transformer networks on audio and text features
- Conducted experiments with different hyperparameters, feature representations, and modeled results for analysis

City of Revere COVID-19 Census Project January 2021 - April 2021
- Investigated demographic inequalities in Revere, Massachusetts using local and U.S. Census Bureau data
- Programmed static and dynamic visualizations for the city of Revere using geospatial data with Python
- Managed JupyterHub server for team of 5 developers to facilitate efficient collaboration

COVID-19 Lung X-Ray Classification November 2020 - December 2020
- Constructed multi-class classifiers of X-Ray images taken of lungs infected with COVID-19 or Pneumonia
- Utilized transfer learning with existing CNN architectures to improve accuracy (VGG-16, Inception-V3)
- Visualized final layers of networks using dimensionality reduction techniques (T-SNE)

ACTIVITIES

Alpha Phi Omega Community Service Fraternity, Member September 2021 - May 2022
***First Year Student Outreach Program**, Staff* August 2021
- Led a group of 14 first-year students to conduct community service throughout the Boston area
- Served as a mentor and resource for students to help equip them with civic tools of engagement

BU Mathematics Directed Reading Program, Member September 2020 - December 2020

PUBLICATIONS

Caulley, Desmond, David V Anderson, and Giancarlo Sirio, "QuestionNet: Audio-based Interrogative Utterance Detection Using an Attention-Driven Network." paper submitted to Conference of the International Speech Communication Association Interspeech 2022, Incheon, Korea, 18-22 September. 2022.