John Miller

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EXPERIENCE

EXTRAHOP – CYBERSECURITY THREAT DETECTION AND ANALYSIS

Senior Data Scientist   MAY 2024 - PRESENT
DATA SCIENTIST III   SEP 2021 - MAY 2024
  - Coordinated across teams and led the development of a completely novel entropy-based ransomware detector
  - Wrote and reviewed customer-facing production code for the Machine Learning Infrastructure team
  - Owned end-to-end development of an internal data analysis package for the data science and engineering teams

BILLUPS – GEOSPATIAL ANALYSIS FOR MARKETING AND ADVERTISING

DATA SCIENTIST   FEB 2020 - JUL 2021
  - Overhauled company's campaign measurement pipeline, reducing necessary manual work from days to hours
  - Implemented an automated Spark workflow that decreased computation time by 20% and minimized human error
  - Completed campaign attribution and lift studies for more than a dozen clients across the United States

ZOOMINFO – DATA ENRICHMENT AND CLASSIFICATION FOR BUSINESS SALES INTELLIGENCE

DATA SCIENTIST   OCT 2018 - FEB 2020
  - Collaborated with data engineers, product managers, and executive leadership to develop and implement machine learning and deep learning models for automated data cleaning and enrichment
  - Trained a regression model to predict company employee counts, improving private company estimates by 15%

GARVIN IMAGE LAB – AUTOMATED DIAGNOSTIC TOOLS FOR DISEASES OF THE RETINA

MASTERS FELLOW   AUG 2016 - JUN 2018
  - Created novel combinations of shape analysis and image processing techniques for disease classification
  - Trained random forest classifiers to determine the cause of optic disc swelling with 86% accuracy

HUMAN SPINAL CORD RESEARCH LAB – NEUROSCIENCE RESEARCH AND EXPERIMENT DESIGN

RESEARCH ASSISTANT   SEP 2014 - AUG 2016
  - Designed, conducted, and analyzed experiments investigating the therapeutic effects of spinal cord stimulation
  - Wrote and maintained Matlab codebase for the research team's analysis and visualization workflows

PROJECTS

LYRICSGENIUS – PYTHON WRAPPER FOR DOWNLOADING SONG LYRICS AND METADATA FROM GENIUS.COM

FOUNDER & PRINCIPAL DEVELOPER
  - Actively maintaining package on GitHub for thousands of users, coordinating open-source collaboration
  - *Trucks and Beer* music lyrics analysis project awarded "best data-driven stories of 2018" by *The Pudding*

MUSCLE MIDI MUSIC – ARDUINO / IPHONE DEVICE FOR TRANSLATING MUSCLE ACTIVITY INTO ELECTRONIC MUSIC

SOLE DEVELOPER
  - Designed and built an electrical circuit and software that generated and controlled music via muscle signals
  - Winner out of 200+ entrants in the "Sensors Contest 2017" on Instructables.com

MUSICIAN MAKER – COMPUTER-CONTROLLED SYSTEM ALLOWING NON-MUSICIANS TO IMPROVISE EXPRESSIVE MUSIC

RESEARCH SCHOLAR
  - Wrote multi-threaded Python code to generate computational music, interfacing with novel hardware instruments
  - Selected as a finalist in the 2012 Guthman New Musical Instrument Competition at Georgia Tech

SKILLS

CODE: Python, Spark, Matlab, C++, SQL, SciPy, NumPy, pandas, scikit-learn, Jupyter, Flask, Matplotlib, seaborn, Altair
TOOLS: AWS (SageMaker, Glue, DynamoDB), Databricks, Git, GitHub/GitLab, VSCode, Docker, Linux
TOPICS: Machine learning, image processing, signal processing, natural language processing, data visualization

EDUCATION

UNIVERSITY OF IOWA – MASTER OF SCIENCE IN ELECTRICAL AND COMPUTER ENGINEERING   2018
GOSHEN COLLEGE – BACHELOR OF ARTS IN PHYSICS, MINOR IN ENGLISH   2014