

Darius Irani

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Education

Johns Hopkins University

M.S.E. IN COMPUTER SCIENCE

Baltimore, MD

Expected December 2020

- **Coursework:** Natural Language Processing, Machine Translation, Deep Learning, Information Retrieval, Dialog Systems, Computer Networks
- **Cumulative GPA:** 4.0/4.0

Johns Hopkins University

B.S. IN COMPUTER SCIENCE AND B.S. IN APPLIED MATHEMATICS & STATISTICS

Baltimore, MD

December 2019

- **Coursework:** Probabilistic Graphical Models, Machine Learning, Computer Vision, Statistics, Time Series Analysis, Parallel Programming
- **Cumulative GPA:** 3.66/4.0 (Dean's List)
- **Extra Curriculars:** DSAGA (Diverse Sexuality & Gender Alliance), TCO Labs, Instructor at Community School Initiative, oSTEM (Out in STEM)
- **Teaching Assistant:** Machine Learning (head), Algorithms, Data Structures

Skills

Languages: Python, Java, C/C++, JavaScript, SQL, R, \LaTeX , HTML, PHP, MATLAB

DevOps: AWS (Lambda, Step, EC2, S3, Redshift, Aurora, SageMaker, Rekognition, QuickSight), Google Cloud, Docker

Tools: PyTorch, TensorFlow/Keras, ParlAI, OpenCV, GeoPandas, D3, React/Redux, GraphQL, Git, Bash, Tableau

Work Experience

Amazon

SOFTWARE DEVELOPMENT ENGINEERING INTERN

Seattle, WA (Virtual)

May 2020 - August 2020

- Improved performance of Random Forest model used to detect mismatches between catalog images and metadata by designing new features
- Prototyped deep learning model in Tensorflow/Keras that used multimodal embeddings as input created by concatenating FastText embeddings and image features from trained Mask R-CNN network with ResNet50 backbone

Amazon

SOFTWARE DEVELOPMENT ENGINEERING INTERN

Seattle, WA

May 2019 - August 2019

- Added user input fields to React front-end and modified GraphQL queries to fetch and display data from synchronized external storage service
- Created feature in Java back-end API that is invoked to synchronize user-inputted fields using AWS Step and Lambda functions
- Streamlined merchant on-boarding process on platform from 5 disconnected steps to 1 seamless step, reducing overall time from 55 days to 1

University of Washington, eScience Institute, Data Science for Social Good

DATA SCIENCE FOR SOCIAL GOOD STUDENT FELLOW

Seattle, WA

June 2018 - August 2018

- Designed interactive mobility index for Seattle Department of Transportation to make strategic policy decisions and generated interactive visualization dashboards with GeoPandas and Tableau
- Developed geocoder module that integrated disparate datasets based on common attributes and computed normalized scores for transportation mode availability, affordability, and reliability

Projects

Course Project	Quantifying Bias in Contextualized Embeddings , Measured implicit racial bias captured by contextualized embeddings extracted from BERT models fine-tuned on different corpora, using SEAT	Deep Learning
Course Project	Localized & Personalized Search Engine for COVID-19 , Designed web-based personalized search engine to retrieve documents relevant to user queries using articles crawled from local news sources	Info Retrieval
Course Project	Damage and Accessibility Assessment for Post-Disaster Regions from Satellite Imagery , Trained U-Net and FPN models to segment roads from pre-/post-Hurricane Irma satellite images for damage index	Computer Vision
Course Project	MinHash Genomic Fingerprinting to Estimate Edit Distance , Implemented four MinHash algorithm variants to measure Jaccard similarity and proposed novel method for using this to estimate edit distance	Comp. Genomics

Conferences and Hackathons

Placed First	IDIES Machine Learning Visualization Hackathon , Developed interactive geospatial visualizations of Baltimore's 911 calls to determine biases in data over time	January 2019
Presented	West Big Data Innovation Hub All Hands Meeting , Poster for Seattle Mobility Index	September 2018
Judges Choice	MedHacks Hackathon , Developed interactive map of low-income East Baltimore residents' accessibility to federally qualified health clinics using transit-time information and hosted results through Flask	September 2017