

PATRICK CRAWFORD

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EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY

Master of Science in Computer Science

4.0 GPA; Concentration in Machine Learning; Teaching Assistant for graduate level Machine Learning course

Atlanta, GA
December 2022

Bachelor of Science in Industrial and Systems Engineering

4.0 GPA; Minor in Computer Science; Concentration in Analytics and Data Science; Highest honors

May 2021

TECHNICAL SKILLS

Programming: Python (advanced), C, Java, JavaScript (React.js and Vue.js), SQL, Swift, HTML/CSS, Bash, R, SAS
Tools: Git, Docker, Jupyter Notebooks, Firebase, Wireshark, RStudio, Microsoft Excel, Simio
Coursework: Machine Learning, Deep Learning, Natural Language Processing, Mobile Apps and Services

EXPERIENCE

IBM

Full Stack Development Intern / Corporate Security Team / Extreme Blue Technical Leadership Program

- Developed and fine-tuned a keyword extraction method for analyzing text content of the average 20,000+ files involved in data theft cases
- Designed Vue.js interactive dashboard for security analysts to make quicker decisions about incidents
- Integrated data from GraphQL backend supported by PostgreSQL database
- Created annotation tool from scratch for evaluating keyword extraction method performances

Austin, TX
Summer 2022

ALLY FINANCIAL

Data Science Intern / Conversational AI Team

- Created web application with Python Flask and Dash to analyze over 300,000 text conversations clustered into 1200+ topics using an unsupervised natural language topic model
- Enhanced topic model REST API by exposing original 300-dimensional vector embeddings of words, topics and conversations, and reduced-dimension 2D and 3D embeddings for visualization purposes

Charlotte, NC
Summer 2021

DELTA AIR LINES

Data Analytics Intern / Airport Customer Service Data Reporting Team

- Analyzed data for 20 operational KPIs, and automated data reporting using SAS, SQL, and Tableau
- Re-designed internal web application for better user experience using JavaScript, Bootstrap, and jQuery

Atlanta, GA
Spring 2020

PROJECTS

GEORGIA INSTITUTE OF TECHNOLOGY

Deep Learning Semester Project

- Trained text generation model to produce paraphrase sentences based on given input sentence on a corpus of 30,000 paraphrase sentence pairs from Google PAWS and Microsoft Research Paraphrase Corpus datasets
- Fine-tuned using PyTorch pretrained T5-base language model; experimented with Transformer adapter module architectures; calculated BLEU score performance metrics; reported findings in ICLR-style paper

Atlanta, GA
Spring 2022

Mobile Applications and Services Semester Project

- Designed React Native iOS social media application for viewing and sharing restaurant recommendations
- Implemented authentication and NoSQL database through Firebase Authentication and Firestore database

Fall 2021

Machine Learning Semester Project

- Built random forest and neural network genre classifiers, achieving up to 75% accuracy for genre groups
- Curated dataset combining song data from the Million Song Dataset with audio features from Spotify API

Atlanta, GA
Fall 2021

ADDITIONAL INFORMATION

Competencies: Agile methodology, technical writing and presentations, teamwork

Leadership: Georgia Tech FASET New Student Orientation Executive Team, Information and Logistics. Implemented first ever virtual orientation program. Coordinated individualized course registration help for 4,000 incoming students.

Music: Jazz, classical, and rock guitarist