Anthony Elkommos Youssef

(845) 729-7664 | anthonyyoussef01@gmail.com | anthony.elkommos.com | linkedin.com/in/anthony-elkommos | github.com/anthonyyoussef01

Dynamic and results-driven master's student with a passion for shaping the future of Artificial Intelligence. Strong foundation in software design patterns, with expertise in data-focused development, statistical modeling, web crawling, and data mining. Proven success integrating AWS S3 with AI/ML models, building predictive and regression models, and implementing web scraping.

Skills
- **Programming languages:**
  - **Expert:** Python, R, Java, Typescript / JavaScript, C#, SQL, BigQuery
  - **Familiar:** C, C++, MATLAB, Assembly (x86 & MIPS), Verilog, PHP, Scala
- **Languages:** French (was part of the e-board at Northeastern's Francophone Club), Arabic

Experience

Qamous.org — New York, NY
Lead Developer — *January 2024 – Present*
- Engineered using ReactJS, TypeScript, NestJS, Sass, MySQL, TypeORM, Docker, Jest; delivering a 91% performance score
- Planned and executed the deployment strategy using AWS: Leveraged ECR and ECS for backend and database deployment, ensured secure API access via ALB with HTTPS, and integrated Amazon EFS and S3 for scalable logging and data backup
- Designed and incorporated a secure authentication strategy with bcrypt, Express, and Passport.js to safeguard user credentials
- Scraped language data, implemented RESTful APIs and integrated React Query for seamless front-to-back data communication

eClinical Solutions — New York, NY
Full Stack Software Engineer - AI/ML Team — *December 2022 - September 2023*
- Integrated and deployed AWS S3 AI/ML models, performed SQL migrations, and optimized query performance by 10%
- Applied OOP principles and .NET front-end development expertise to resolve over 15 complex bugs within tight deadlines using Angular and TypeScript, reducing overall system downtime and enhancing user experience
- Designed and implemented over 20 new features based on market research and collaborated in an Agile Scrum framework
- Developed and maintained backend APIs, executed software restructuring, and drove implementation of key features using C#

Columbia University — New York, NY
Application Systems Developer (Part Time) — *June 2022 - December 2022*
- Performance-tuned the Directory of Classes system and developed a new system, decreasing update runtime by 83% using C
- Tested the performance and reliability of the new system using python and bash, contributing to the system's data accuracy
- Prepared UNIX shell scripts for end-to-end testing of applications, ensuring system stability for over 4,000 students and staff

Wayfair — Boston, MA
People Analytics Co-op (Intern) — *December 2021 - June 2022*
- Selected as Co-op Captain: created and facilitated events for hundreds of co-ops fostering engagement and community-building
- Generated complex SQL queries for Google BigQuery and DataStudio, improving employees' time efficiency by over 25%
- Automated processes in Python, reducing time by 68%, saving 16 hr/month in data extraction and 6.25 hr/month in data cleanup
- Presented data analyses and insights to leadership and identified enhancements for recruitment and candidate experience
- Programmed a Slack chatbot saving employees valuable hours finding time-sensitive resources

IBM — New York, NY
Client Services & Consulting: Talent Identification Program (Intern) — *May 2021 – August 2021*
- Presented a consulting solution that was reviewed and implemented for a high-priority case study (https://shorturl.at/VyuVA)

Education

The University of Texas at Austin — Austin, TX
M.S. in Artificial Intelligence — *August 2024 – Present*

Northeastern University — Boston, MA
B.S. Computer Science with a concentration in Artificial Intelligence — *September 2019 – August 2022*
- **Resident Assistant:** fostered relationship development among over 100 students and planned staff meetings
- **Relevant Coursework:** *IS4200* – web indexing, crawling, and implementing an Elasticsearch-based search engine; *CS4100* – deploying Convolutional Neural Network (CNN), Recurrent Neural Network (RNN), and Long Short-Term Memory (LSTM) models using PyTorch and Scikit-Learn; *DS4400* – regression, classification, decision trees, hypothesis testing, Naïve Bayes, K-means clustering; *CS4500* – Git, JSON, Test-Driven Development, unit testing, GUI testing, pair programming
- **Research Assistant, Outreach Coordinator:** analyzed and applied Computer Vision on mice dMRI images, updated websites

Projects
- **Loan Default Risk Analysis:** ML loan default prediction using CV AdaBoost Classifier, Support Vector Classifier (SVC), and Logistic Regression with cross-validated hyper-parameter values
- **Basketball Point Prediction:** parsed and cleaned data from sportsdata.io to be used for linear regression, ridge regression, and neural nets and compared the prediction accuracies
- **Stonkorithm:** implemented a 3-layer Sequential model with Keras & TensorFlow to predict stock prices using market data and sentiment analysis on Reddit & Twitter
- **NLP Sarcasm Detection:** semantic modeling of sentences using neural networks using nltk, Keras, and Tensorflow
- **Real-time Transaction System:** Java & Spring ledger system, utilizing Event Sourcing Pattern to maintain a transaction history
- **Ray Tracing:** Followed Peter Shirley's Ray Tracing book and added multi-threading support in C++

Volunteering, Leadership & Mentoring
- **TKOL Scouting Group President & Founder, COSF President, Peer2Peer Ambassador:** mentored and trained 100+ youths
- **Awarded Wood Badge:** advanced course in Project & Time Management, Conflict Resolution, Team Building, Leadership
- **Chief Executive Connector at Young Alumni Advisory Board:** serving to create and lead events for alumni and students