

Yelena Y. Yu

Computer Science | Data Analysis | Finance

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 yelena.info

 San Jose, California

TECHNICAL SKILLS

Programming Languages Python, Java, C/C++, JavaScript, HTML, CSS, SQL, R, VBA, BASIC, SQL

Cloud & Web Frameworks Amazon Web Services(AWS), Heroku, Flask, Django, D3.js, Spring, React.js, Node.js, Vue.js, Angular, Gin

Machine Learning Frameworks PyTorch, Keras, scikit-learn, XGBoost, LightGBM, AutoGluon, Numpy, Pandas

Databases MySQL, PostgreSQL, Amazon RDS, MongoDB, Firebase, Redis

Tools and Technologies Git, Linux, Docker, Virtual Machines, TCP/IP, RPC, REST, Wireshark/Packet Sniffing, SPSS

PROJECTS

Neural Denoising for Handwriting | Python, Keras, PyTorch

February 2024 - Present

- Neural network model for removing noise and recovering black-and-white handwritten text.
- Based on convolution neural network and auto encoder architecture, implemented using both **PyTorch** and **Keras**.
- Dataset from Kaggle, augmented algorithms for artificially adding different types of noise (salt-and-pepper, speckle, lines, etc).

Personal Portfolio | React.js, JavaScript

November 2023 - Present

- React-based web app for introducing myself, showcasing my proud projects and achievements.

- Feel free to drop by and check it out!

Movie Recommender | R / Shiny

August 2022 - December 2022

- Recommends movies to users by predicting user preferences using **collaborative filtering** (both user-based and item-based).
- Users select movies from list of movie titles, prediction algorithms make recommendations based on similar users and movies.
- Made using **R** and **Shiny** framework, dataset obtained from MovieLens.

Automated Stock Analysis & Trading | Python

May 2023 - June 2023

- Developed Python algorithms to fetch stock data from AlphaVantage and IEXCloud to calculate financial indicators in real-time.
- Automated transaction decisions based on calculated indicators with options of paper trading and brokerage accounts.
- Used **Pandas**, **Robinhood API**, **REST**, **Numpy** and deployed to **AWS EC2** for high availability and accessibility.
- Evaluated and tuned algorithms by back-testing with historical data.

Police Fairness Analysis | R

March 2023 - April 2023

- Used hierarchical Bayesian regression model to investigate discrimination against Asians during traffic stops.
- Implemented **R/JAGS** code to clean/preprocess data, train model, and run **Markov Chain Monte-Carlo** simulations.
- Identified evidence of discrimination, with a higher likelihood of citations or arrests for Asian drivers.

Plant Moisture and Temperature Monitor | Python, Raspberry Pi

January 2022 - June 2022

- Monitors ambient temperature and soil moisture for indoor plants, increased plant survival rate over time after deployment.
- Notifies user of low moisture or suboptimal temperature through LEDs, data visualization through **D3.js** web dashboard.
- Logs data into a local file and to AWS via **REST** through **AWS API Gateway**, **AWS Lambda**, data saved in **AWS DynamoDB**.

EDUCATION

Northeastern University, Khoury College of Computer Sciences

San Jose, CA

Master of Science in Computer Science (GPA 4.0)

January 2023 - Present

William Jessup University, School of Business

San Jose, CA

Master of Business Administration – Information Technology Concentration

August 2019 - December 2022

Pepperdine University, Graziadio School of Business and Management

Malibu, CA

Master of Science in Applied Financial Mathematics, Investments

August 2016

EXPERIENCE

BPM LLP

Santa Rosa, Sonoma

Assurance Senior / Analysis Automation

September 2019 - December 2022

- In charge of engagements, led engagement team, assigned detailed works, mentored, and guided junior staff, and reported to Audit Managers for audit progress, ensuring the effectiveness and efficiency of each engagement.
- Assigned work to the audit team, and reviewed audit work papers under the general direction of the audit manager.
- Drafted financials and reports, with audit findings, and presented them to clients both verbally and in writing.

ACap Asset Management

Studio City, Los Angeles

Financial Engineer

January 2019 - April 2019

- Developed algorithms and models in Excel **VBA/Macro** to automate portfolio rebalancing, improving efficiency by 80%.
- Designed portfolios for new clients and drafted Investment Policy Statement (IPS) for manager's review, balancing risk based on risk tolerance; analyzed and rebalanced clients' portfolios periodically based on specific IPS; performed Ad-Hoc analysis.
- Wrote investment guidance for industries of interest and presented them to clients.

ORGANIZATIONS

Algorithms Interactive Gaming at Northeastern University Founding Member

AnitaB.Org Member, Advocate