Ye (Eve) Shen

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Highlights

- Currently working as a software developer. Individually performed full stack development for 2 Python applications and 1 Java Android application.
- No visa sponsorship needed. Flexible starting time.
- Obtained M.S. degree in Computer Science from Georgia Institute of Technology. Accomplished 3+ software development projects and 2+ data science projects.
- Summary of courses and skills:
  - Courses: Graduate Algorithm, Software Development Process, Database System Concepts & Design, Computer Networking, Software Architecture and Design, Machine Learning, Reinforcement Learning and Decision, Data Visualization Analytics, Big Data Health, Machine Learning for Trading.
  - Skills: Python (3 years), Java (2 years), Android Studio, JavaFx, Object-Oriented Design(OOD), Javascript, HTML, d3, CSS, Tableau, SQL (2 years), Matlab, Hadoop, Spark, Scala, Git.

Education

Georgia Institute of Technology, USA   1/2018 - 5/2020
- M.S. in Computer Science and Engineering

University of Wisconsin-Madison, USA   9/2011 - 10/2016
- Ph.D. in Materials Engineering

Professional Experience

Software Engineer, Hindsight Imaging   3/2019 – present

Spectral-Imaging Software
- Built GUI by wxPython framework. Controlled multiple components and achieved live data visualization by multi-thread programming in Python.
- Built 3D data visualization tool for data analysis. Applied machine learning algorithm to fingerprint the experimental samples.

Diamond-Examiner Android App
- Developed an app which can take photos with both external USB webcams and inner cam. Applied algorithm to extract diamond grade information from the images.

Optical Coherence Tomography (OCT) Spectrometer Software
- Created C++ wrapper in python to call 3rd party equipment's C++ API. Built GUI in python for users to do data acquisition, equipment alignment and data analysis.

Postdoc Fellow, Harvard University   3/2017 – 3/2018

High-throughput simulations and experiments to develop metallic glasses
- Applied the support vector machine (SVM) method with python to pinpoint the optimal metallic glass forming compositions within more than 100 composition candidates.

Selected Computer Science Projects (Demos: https://yesheneve.github.io/)

Star Search Simulator App by JavaFx

- Developed an app to enable a group of drones to explore a grid of stars and avoid crashing into artifacts such as other drones, suns or UFOs.
- Improved the software architecture by applying singleton and observer patterns in OOD.
- Enhanced user experience by adding manual control of drone actions and live visualization of the grid updates using timeline animations in JavaFx.

GTBay website (similar to Ebay) by Postgre SQL and Java

- Generated database relationship diagrams. Created the SQL schemas and SQL queries to insert, update, select, delete, and sort data.
- Built GUI and enabled it to communicate with the database by Postgre SQL and Java Spark.

Cryptogram Game App by Java Android Studio

- Developed an app for multi-user to play cryptogram game. Features include managing user accounts, creating and playing cryptograms.
- Conducted software design by UML diagrams such as class diagram and sequence diagram.
- Built GUI and achieved the functionality by Java in Android Studio. Generated testing cases and performed Espresso test.

Home Credit Default Risk Project in Kaggle competition

- Improved model performance by adding hundreds of new features during feature engineering; finding two quite different LightGBM parameter sets to improve cross validation result; adding Xgboost and stacking with those two LightGBM results
- Achieved 0.799 ROC AUC score for classification with python.

Chest X-ray Image Analysis with DCNN: Disease Classification and Localization

- Incorporated the VGG/DenseNet base-model and the additional transitional/pooling/prediction layers to build the DCNN architecture to do multi-label classification and heatmap disease localization within 108,948 ChestXray images by Keras/python on AWS and Azure.
- Achieved AUC up to 0.83. Disease localization gains an accuracy up to 0.6096.

Reinforcement Learning project: Landing Lunar Lander Rocket

- Enabled Lunar Lander to land within a safe zone from a starting point without crashing with the dueling double Deep Q Networking algorithm by Tensorflow/Python.
- Optimized hyper parameters and improved the algorithm with Prioritized Experience Replay: the converged rewards are consistent within 100 trials and higher than the targeted goal value.