YEJIA ZHANG (cyzsoftware.com)

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SEND EMAIL

EDUCATION

University of California, San Diego (UCSD) Graduation: Dec 2017
B.S. Computer Engineer w/ Machine Learning Focus GPA: 3.61/4.00

RESEARCH & PUBLICATIONS

University of Notre Dame: Deep Learning Research – cyzsoftware.com/pages/proj_reg.html

Research Project: Using Convolutional Nets to Improve Semantic Segmentation **Summer 2017**

- Worked with Professor Chen and alongside PhD students on cutting edge methods to improve image segmentation results via new network architectures and convolution algorithms - was part of a larger video registration project to aid in biological research.
- Developed a new deep segmentation network that achieved state-of-the-art results on our dataset.

Paper: A New Registration Approach for Wing Pouch Image Sequence Analysis **October 2017**

- From the work above, I helped co-author a paper explaining the use of deep learning to register different wing pouch frames from high resolution videos to help analyze the Calcium ion signal waves for applications in disease studies and other biological research.
- Paper accepted by the 2018 IEEE International Symposium on Biomedical Imaging conference (ISBI'18).

EXPERIENCE

Huawei Technologies Co., Ltd. Software Intern

Software Project (2016): JVM Garbage Collector Data Analysis **Winter 2016**

- Wrote a Java application that takes in real time JVM garbage collection data, analyzes it, and outputs a list of probable memory leak locations (if any); also predicts the time until termination for programs with memory leaks.
- My application was a component in a comprehensive system diagnostic program which monitors and allocates system resources.

Software Project (2014): CPU Data Analyzer and Usage Predictor **Summer 2014**

- Designed and wrote a Java program that takes in large CPU dump files, analyzes individual CPU threads, and outputs an accurate prediction of which threads will use up the most CPU resources. Improved accuracy on average by >10% over previous predictor.
- Also implemented a file output system; all functionalities were then integrated into a larger automated troubleshooting application.

The Institute of Electrical and Electronics Engineers, UCSD Micromouse Team, Programmer/Designer **Jan - May 2016**

- Wrote C source code for the Micromouse CPU to hold maze data and improve maze navigation.
- Implemented and tested algorithms which allowed the mouse to improve the traversal time of turning sections by over 30%.

Mobile App Development

iOS App: Siren (Personal Project) **Summer 2016**

- This app allows users to post items they want to buy/sell on merchandise forums; it also conveniently alerts the user when relevant items that are of interest are posted (with smart search for descriptions and categories).
- Implemented with: MongoDB, NodeJS, Swift.

Android App: dev.net (Team Development Project) **Fall 2016**

- Developed a platform that connects developers with clients that have great app ideas. Allows developers to apply for client projects and contribute to them while also allowing clients to post their app ideas and search for dev teams.
- Used BDD (Behavior Driven Development) throughout the project; implemented front-end UI components and setup the backend features: Firebase, relevant search, database communication and management.

SKILLS & KNOWLEDGE

Machine Learning

- Python: PyTorch, TensorFlow, Numpy, SciKit
- Matlab: ML & NN Toolbox, OpenCV
- FIJI (Image Processing)

General Software

- Adept with: Java, C/C++, Python
- Familiar with: Unix, Swift, Git, Eclipse, Agile Dev.
- Experience with: HTML, CSS, JS, Ruby, TCL

Course Work

- Machine Learning (Statistical & Graphical Approach), Bayesian Learning, Computer Vision, Neural Nets/Deep Learning, Recommender Systems & Web Mining
- Multivariable/Vector Calculus, Linear Algebra, Discrete Math, Probability, Statistics, and Computation Theory
- Advanced Data Structures and Algorithms
- Digital Circuits & Systems, Computer Architecture, Circuits and Linear Systems, Adv. Analog/Digital Design

LEADERSHIP & AWARDS

Leadership: Global Child Aid Society, Hexian, Anhui, China, Founder (June 2012 – Present)

- Started a humanitarian organization to help underprivileged children by sponsoring their education up until college
- Secured funding (over 12 years) for over $50,000 to help 18 young students through donations from volunteers and fundraising

Awards & Honors

- Intel Science Talent Search, National Semifinalist, 2013
- Provost Honors (7 Terms) from Warren College at UCSD
- Siemens Competition, National Semifinalist, 2013

All references available upon request.