

Shujian WEN

(917) 605-6194 | sw3134@columbia.com | Apt 62, 515 West 122nd Street, NY 10027

EDUCATION

Columbia University | School of Engineering and Applied Science New York, NY
MS in Materials Science and Engineering, GPA: 3.53 Expected Dec 2017
Relevant coursework: Data Structures in Java, Partial Differential Equations, Numerical Methods

Fudan University | Department of Material Science Shanghai, China
BS in Electronics Science and Technology, GPA: 3.30, Rank 3/22 Sept 2012 - June 2016
Relevant coursework: C Programming, Mathematical Analysis, Methods of Mathematical Physics, Linear Algebra

EXPERIENCE

Columbia University Aug 2017 – Present
Research Assistant (with Prof. Yuan Yang) New York, USA

- Conducted high throughput smoothing of Raman images for studying lithium negative electrode
- Implemented **Gaussian kernel smoothing regression** to achieve smoothing of Raman images using MATLAB
- Removed the noise and improved visual recognition of Raman images by **30%**

Beijing Institute of Collaborative Innovation, USA May 2017 – Aug 2017
Data Analyst Intern California, USA

- Designed a web crawler for searching and screening news articles on technology websites using Python
- Implemented with **Requests, BeautifulSoup, nltk, PostgreSQL** and uploaded work on **AWS EC2**
- Highly improved the efficiency of finding potential investment opportunities compared to manual searching

Columbia University Feb 2017 – May 2017
Research Assistant (with Prof. James Im) New York, USA

- Conducted **numerical analysis** on the model of melting and solidification process in the pulsed laser irradiation of thin semiconductor films using Python
- Implemented data processing for status and temperature of the sample grid, making plot for direct visualization

PROJECTS

Q-Learning self-driving car

- Used **Pytorch** as deep learning framework and **Kivy** as car simulation generator to build a AI self-driving car model
- Applied **Deep Q-Learning model and Softmax function** to achieve self-learning and action selection
- Successfully tested the car model on different self-created roads, **100%** reached destination while avoiding obstacles

Breakout AI

- Used **Pytorch-a3c** as deep reinforcement learning framework and **OpenCV** as computer vision platform to build an AI to play Breakout games
- Applied **A3C model and Long Short-Term Memory** for better deep reinforcement learning performances
- Self-trained AI successfully passed the hard level of Breakout games in 20 minutes

2-Do List app

- Developed an Android To-Do List application using Java and the Android Studio
- Implemented **Gson** and Android SDK APIs (**Adapter, ListView...**), visualized on Android Virtual Device emulator
- Worked as a memo for the convenience of taking and deleting notes

OTHER ACHIEVEMENTS

- **Github:** Greatjian; **Personal website:** <https://greatjian.github.io>
- **Languages:** Proficient in Python, Java, familiar with C, C++; HTML, CSS, JavaScript
- **Software:** MATLAB, LabVIEW, Origin, Git; **Database:** PostgreSQL
- **CFA Level I** (passed); **Go amateur 4 Dan**, the second level athletic in China
- Mandarin (native); English (fluent); Cantonese, Spanish (conversational)