

# Shujian WEN

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## EDUCATION

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**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

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**High throughput smoothing of Raman images for studying lithium negative electrode**

Aug 2017 – Present

*Columbia University (with Prof. Yuan Yang)*

New York, USA

- 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%

**Web crawling for technology news gathering and processing**

May 2017 – Aug 2017

*BICI USA*

California, USA

- Designed a web scraper using Python to search news articles on technology websites
- 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

**Excimer laser-induced crystallization (ELC) of amorphous Si films**

Feb 2017 – May 2017

*Columbia University (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

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**Q-Learning self-driving car**

- Used **Pytorch** as deep learning framework and **Kivy** as car simulation generator to build an AI for a self-driving car model in Python
- Applied **Deep Q-Learning model and Softmax function** to achieve self-learning and action selection

**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

**2-Do List app**

- Developed an Android To-Do List application using Java and the Android Studio
- Worked with **Gson** and Android SDK APIs such as **Adapter, ListView**; visualized on Android Virtual Device emulator

## OTHER ACHIEVEMENTS

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- **Github:** Greatjian; **Personal website:** <https://greatjian.github.io/>
- **Languages:** Proficient in Python, Java, familiar with C, C++; HTML, CSS (Framework: Bootstrap), JavaScript
- **Software:** MATLAB, LabVIEW, Origin, Git; **Database:** PostgreSQL
- **CFA Level I** (passed); **Go amateur 4 Dan**, the second level athletic in China
- Community service: Received **2012 Outstanding Volunteering Assistance Award** by performing tutoring to children with disabilities, devoted more than 100 hours; An energetic mountain hiker and traveler
- Mandarin (native); English (fluent); Cantonese, Spanish (conversational)