

# Yanjie He

Portfolio of Projects: <https://yanjiehe.github.io/>

LinkedIn: <https://www.linkedin.com/in/yanjiehe/>

Address: 1255 New Hampshire Ave NW, Washington DC 20036, USA

Mobile: +1 (202)733-7796

Email : [heyanjie0@outlook.com](mailto:heyanjie0@outlook.com)

Github: <https://github.com/YanjieHe>

## EDUCATION

- **The George Washington University** Washington DC, USA  
*Master of Science in Data Analytics (Computer Science track); GPA: 3.59/4.00*
  - **Courses:** Design & Analysis of Algorithms, Database System II, Advanced Software Paradigms
- **Shanghai University of International Business and Economics** Shanghai, China  
*Bachelor of Arts in Economics; GPA: 3.71/4.00*  
*Sept. 2013 – June. 2017*

## RELEVANT SKILLS

- **Coding:** C, C++, C#, Java, Scala, Python, R, SQL, Scheme/Racket
- **Front-end:** React.js, HTML/CSS, JavaScript, Bootstrap
- **Back-end:** Spring, Hibernate, MySQL, Play, Akka, MyBatis, JDBC, Redis, Linux, Flask, JUnit, Docker
- **Technologies:** Machine Learning, Computer Vision, Compiler Design
- **Frameworks & Tools:** RESTful API, SQLite3, Spark, OpenCV, AWS (EC2, RDS), Qt 5

## EXPERIENCE

- **Software Engineer Intern - Computer Vision** Reston, VA, USA  
*ScientiaMobile, Inc.* *Jun. 2019 - Aug. 2019*
  - **Image Classification:** Developed an image classification system using Python and C++. It is part of the ImageEngine project. It classified more than **4 million images** on the server.
  - **ImageEngine:** ImageEngine (<https://www.scientiamobile.com/products/imageengine/>) is a framework for mobile devices and website image optimization, widely used by industry leaders, including **Amazon, Google, Oracle, and Willis Towers Watson**.
  - **Docker:** Standardized the C++ and Python dependencies using Docker. Deployed and maintained the service on a Linux server.
  - **Computer Vision:** Researched how to extract image features and classify images. Completed a C++ program with OpenCV to compute image and color statistics in high performance.
  - **Machine Learning:** Built an SVM classifier to identify images which are not suitable for overly compressed. The precision is **95%**, and the overall accuracy is more than **80%**.
  - **Web Service:** Completed a RESTful service using Python Flask. Managed data of image features on MySQL.
- **Tutor & Autograder Developer** Washington DC, USA  
*George Washington University* *Sep. 2019 - Anticipated Dec. 2019*
  - **Assisting:** Helping 19 students in the Programming for Analytics course. Building an autograder to grade R code.
  - **Front-end & RStudio Addin:** Completing a front-end using React.js for problems posting and student management. Developing an RStudio addin for students to test and submit their solutions.
  - **Back-end:** Building a RESTful back-end service using Java Spring, Hibernate and MySQL. Designed data models.
- **Research Assistant - Recommender System** Washington DC, USA  
*George Washington University* *Oct. 2018 - Feb. 2019*
  - **Recommender System:** Developed a graph-based recommender system prototype for Dr. Benjamin Harvey's research project, providing recommendations based on user behaviors data. (Java Spring, RESTful API, Hibernate, MySQL)
  - **Information Retrieval System:** Developed a web scraper using Python to collect data. Applied NLP to retrieve information from user activities in the browser.
- **Computational Social Scientist** Washington DC, USA  
*George Washington University* *Oct. 2018 - Jun. 2019*
  - **Social Network Analysis:** Worked for Professor Vontrese Pamphile's social science research project. Applied mathematical and statistical techniques to novel data. Measured reputation premium gained from social connections.
  - **Data Analysis:** Reviewed academic papers. Cleaned datasets and run the models using Python, R, and Scala. Utilized packages, including NetworkX and igraph.

## SELECTED PROJECTS

- **A Compiler and a Virtual Machine:** Developed a compiler for a statically typed language, a bytecode disassembler, and a virtual machine in C++.
- **A Movie Recommender System:** Link: <https://yanjiehe.github.io/Movie-Recommender-System/> Developed a responsive web app for retrieving 26,631 movies' information and recommendations using Scala (Play, Akka, Spark). Deployed the web service on the AWS EC2. Managed MySQL database on the AWS RDS.