

# Yihao (Ricky) Wang

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## EDUCATION

**Carnegie Mellon University | GPA: 3.77/4.0**

Pittsburgh, PA

Master of Science in Electrical and Computer Engineering

12.2022

**Core courses:** Machine Learning, Deep Learning, Computer Systems, Java for Application Programmers,

**Imperial College London**

London, UK

Master of Science in Communications and Signal Processing with Merit

10.2021

**University of Birmingham | GPA: 4.25/4.25**

Birmingham, UK

Bachelor of Engineering in Electrical Engineering with Honors, First Class

7.2020

**University of Electronic Science and Technology of China | GPA: 3.89/4.0**

Chengdu, China

Bachelor of Engineering in Optics Engineering

7.2020

## WORK EXPERIENCE

**Expedia Group**

Seattle, US

**Software Development Engineer II, Search Relevance Team**

3.2024 – present

- ◆ Completed A/A test and integrated personalization SDK to enhance system performance. Led the deprecation of a legacy service for consistency. Redesigned the calling method of the post-processing service to promote independence and efficiency of ranking team's service. Acted as the primary **POC** for a key service returning final sorted properties, fostering collaboration with the machine learning team.
- ◆ Collaborated with Ads team and migrated the auction function to the ranking service with GP of \$4.55 million.
- ◆ Closely worked with Machine Learning Platform team and finished the parity check using PySpark.

**Software Development Engineer I, Search Relevance Team**

1.2023 – 3.2024

- ◆ Implemented a shadow orchestrator in the post-processing service in Expedia Ranking for conducting pre-production tests of **all machine learning features**; Designed and set up the **CI/CD pipeline** for the shadow test and set the contribution guidelines as the key engineer of this new feature.
- ◆ Launched the post-processing service for brands Expedia and HCOM which returned the final ranking list of properties for real-traffic requests; As the **top 2** contributors to this post-processing service, collaborated with Machine Learning Scientists, took charge of the LODO work and accomplished platform migration.
- ◆ Documented the **E2E debugging process** and presented it to the Expedia Search team and Machine Learning team and it has been reviewed **1k+ times**; Drafted the **on-call playbook** for new team members and actively participated in on-call duties; Collaborated with Product Manager and presented the search 101 tech talk to EG Search leadership team and it summarized the scope of EG Search and can be regarded as a high-level overview.

**Software Development Engineer Intern, Conversational Platform Team**

5.2022 - 7.2022

- ◆ Designed and developed existing **Virtual Agent (VA)** skills using **Kotlin** with a focus on the conversation starter skill; Created new message templates of automatic replies and declarative cards.
- ◆ Created a new skill of VA related to flight information using **Java**, having a predictable impact on future products. Made calls to different services and set up the proxy to fetch required information. Added the slot filling function and collected key information within conversation scope when users are chatting with VA.

**Supplyframe**

Shenzhen, China

**Software Development Engineer Intern**

7.2020 - 9.2020

- ◆ Applied **Python**, natural language processing (**NLP**), and transformer model to semantic information; Constructed symbol classifier in keyword segmentation, reaching accuracy over 90%.

## PROJECTS

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**Multi-participant Interaction in Virtual Reality and Motion Sensing** ([Demo Video](#)) *CMU* 1.2022 – 5.2022

- ◆ Implemented a multi-participant application using **C#** with Unity and Photon and applied on Oculus Quest 2.

**Dynamic Storage Allocator (Malloc)** *CMU*

9.2021 – 11.2021

- ◆ Built a dynamic allocator based on **C** language utilizing explicit free list and selected segregated fits to maintain an array of free lists; Adopted the better-fit policy and LIFO policy to improve memory utilization to 74.4%.

**Black-box Adversarial Attacks for Quantized Image Classifier** *Imperial College London* 1.2021 – 3.2021

- ◆ Developed a Dense One-pixel attack method using **Python** and **TensorFlow** and Differential Evolution algorithm to attack image classifiers. Increased the attack success rate by 13%; Designed **metric calibration** and identified a new method that improved query efficiency by 53%.

**Automatic Transcription of Ornamented Irish Flute Music** *CMU*

10.2019 – 4.2020

- ◆ Altered the CNN baseline model to fit flute music and improved the accuracy by transfer learning.

**Intelligent Wire Tracking Vehicle** *University of Birmingham*

1.2019 – 5.2019

- ◆ Built an amplifying circuit with SSM 2019. Realized analog signal collection and digital signals conversion and processing with a quadrature filter installed by **PIC**. Controlled wheel speed by PWM wave ratio.

## SKILLS

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**Programming:** Python, Java, Kotlin, C, Python, Golang, C# **Framework:** Maven, Spring, Gradle

**Tools:** Jupyter Notebook, Git, Docker, Spinnaker, PySpark, Datadog, Splunk, Kubernetes, Postman

## HONORS

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- ◆ Outstanding Graduate at UESTC (2020, Top 5%) University of Electronic Science and Technology of China
- ◆ Engineering Undergraduate Prize (2019, Top 2) University of Birmingham
- ◆ Tang Li-Xin Scholarship (2018, Top 1%) University of Electronic Science and Technology of China
- ◆ China National Scholarship (2018, Top 1%) University of Electronic Science and Technology of China
- ◆ China National Scholarship (2017, Top 1%) University of Electronic Science and Technology of China