# Hsin-Hua Yang

AI, OR, and Algorithm Design Specialist

## Contact

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Yokohama City, Kanagawa

## Languages

**Japanese:** JLPT N1
**English:** TOEFL iBT 98
**Chinese:** Native

## Certificates

- Fundamental IT Engineer Exam
- Coursera – Introduction to Machine Learning
- Coursera – Discrete Optimization

## Expertise

● 1 year of experience
◐ 0.5 year of experience

### Programming Language

| | |
|---|---|
| Python | ●●●●● |
| TypeScript | ●●● |
| SQL | ●●◐ |
| VBA | ●●◐ |
| PHP | ●◐ |
| Shell | ●◐ |

### Tools

| | |
|---|---|
| Git | ●●●●◐ |
| Docker | ●●● |
| React | ●◐ |
| AWS | ● |

### Fields of Experience

| | |
|---|---|
| OR | ●●● |
| ML | ●◐ |
| DS | ●●◐ |
| Web Dev | ●●● |

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OR: Operations Research
ML: Machine Learning
DS: Data Science
Web Dev: Web Development

## Summary

Experienced AI and data analysis professional with expertise in operations research, machine learning, and software development. Skilled in designing advanced algorithms and streamlining product lifecycles to deliver efficient solutions. Combines a robust foundation in physics, computer science, and hands-on IT experience to create impactful, innovative products.

## Experience

**SENIOR ENGINEER | Ridge-i Inc., Tokyo, Japan**

*Aug 2024 – Present*

**ENGINEER | Ridge-i Inc., Tokyo, Japan**

*Mar 2023 – Jul 2024*

**Logistics Warehouse Layout Design Project: [Reference Link]**

- Designed and developed optimization models using **local search** and **tabu search** to generate optimal warehouse layouts.
- Demonstrated practical effectiveness of developed models, achieving **improvements in operational efficiency and cost reduction** over traditional manual approaches. Models already deployed and actively used by clients.
- Undergoing review for **patent application** of the developed models.

**CNC Layout Design Project (Packing Problem):**

- Developed a model utilizing **greedy and heuristic algorithms** to efficiently pack donut shapes and circular shapes in CNC production.
- Reduced average area loss by **5%** compared to manual methods.

**ENGINEER | looking up Inc., Tokyo, Japan**

*Jan 2021 – Feb 2023*

**Candidate Selection Project:**

- Designed and developed a model combining **linear programming** and custom **probability functions** to identify interviewers meeting specific conditions from survey results.
- Achieved the effectiveness of **mixed integer programming (MIP)** without using traditional MIP solvers.

**PART-TIME ENGINEER | ielove-group Inc., Tokyo, Japan**

*Feb 2020 – Jun 2021*

- Maintained real estate websites using PHP, JavaScript, and HTML.

**PROGRAMMER | Link Your Company Co., Ltd., Tokyo, Japan**

*Oct 2018 – Jun 2019*

- Gained hands-on experience in software development using Python.

**TEST ENGINEER | Elo Touch Solutions, Taiwan**

*Jul 2016 – Aug 2018*

- Designed software utilizing **linear regression** for converting CSV files into visual graphs using Python.

## Education

**B.S. in Electrophysics**, National Chiao Tung University, Taiwan
*Graduated Jun 2016*