

# Jiwu Jang

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## Education

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### High school.....

#### **Stanford Online High School**

**Palo Alto, CA**

*Part-time enrollment, Grade 11 to 12*

*Fall 2023 – Spring 2025*

Coursework: UM150 Multivariable Calculus, UM152 Number Theory, UM157 Logic in Action: A New Introduction to Logic, UM160 Discrete Mathematics, UM170 Geometry of Numbers, HRMCF Math Competition Club.

#### **Hankuk Academy of Foreign Studies**

**Yongin, South Korea**

*High School Diploma, Grade 10*

*Spring 2022 – Spring 2025*

G.P.A. 5.0 / 5.0, Relative Grade: 2.9. Coursework: Precalculus, English, Korean, Computer Science, Natural Sciences, Social Studies, Korean History, Spanish Language & Composition, Spanish Culture & History.

### Gifted education.....

#### **Hanyang University Gifted Education Program (HYGEC)**

**Seoul, South Korea**

*Advanced class, Grade 6 to 8*

*Mar 2019 – Dec 2021*

Coursework: Linear Algebra, Discrete Math, Computational Complexity Theory, Algorithms, Data Structures, Optimization, Computer Systems, and Machine Learning. Was awarded first place in long-term projects for “pryst” — a statically and strongly typed programming language much alike to TypeScript, without the hassle of the JavaScript ecosystem.

## Scholarships and awards

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**The Ross Mathematics Program:** 2023 (first-year student)

**United States of America Computing Olympiad (USACO):** Gold division, promoted January 2023

**AP Computer Science A Perfect Score:** one of 369 out of 78510 test takers (top 0.47%) to get a perfect score, May 2022

**American Regions Math League (ARML) Final:** Selected as a member of the only team that represents South Korea in ARML 2023 (KGSEA Korea, 2023).

**American Regions Math League (ARML) Local:** 9<sup>th</sup> place team out of 300 teams (KGSEA Korea B, 2023).

**Stanford Math Tournament (SMT):** Distinguished Honorable Mention (top 20%) for both Algebra & Geometry round.

**World Mathematics Team Championship (WMTTC):** 1<sup>st</sup> place (HAFS M4, 2022)

**Purple Comet! Math Meet (PCMM):** 2<sup>nd</sup> place in South Korea (Homie O'Morphism, 2023).

**American Invitational Mathematics Examination (AIME):** qualified 2022, 2023

**Korea Olympiad in Informatics (KOI):** Silver medal, June 2021

**Korea Code Fair (KCF) Hackathon:** Silver medal, August 2022 – November 2022

**Hansung Nobel Scholarship:** awarded \$10k, January 2023 – December 2024

**National Merit Scholarship Index:** PSAT/NMSQT 1480 (99<sup>th</sup> Percentile, 220 Index), October 2022

**IMC-IMPEA:** 2<sup>nd</sup> place out of 143 teams world-wide, April 2023

## Projects

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**konne.ai:** A word training platform powered by machine learning.

**dustackle:** A Facebook chatbot that provides real-time information about fine dust levels and related statistics. Developed using TypeScript, Nest.js, Fastify, and Dialogflow.

**pryst:** A programming language made with Java, GraalVM, and ANTLR4.

**rehype-twemoji:** An emoji-to-twemoji converter that runs on top of the *unified.js* ecosystem.

**smartquotes-ts:** A port of smartquotes.js to TypeScript.

**ASKY:** A virtual girlfriend developed using Unity/C#, Python Flask, and LUIS.ai. Can talk and play some games with the user using natural language processing. Presented in front of other HYGEC students.

## Work experience

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### Software.....

**Software developer:** Dogugonggan Co., Ltd.

*August 2022*

Interned at a Seoul-based robotics tech startup that focuses on autonomous security patrol and disinfection robots. Developed an interchangeable speech-to-text module with TypeScript for NVIDIA Jetson NX. Gave internal tech talks about cross-platform app frameworks such as React Native, Flutter, and Ionic. Reference: Cheng-Hao Quan.

### Volunteer and outreach.....

**Instructor:** After-school math tutoring

*December 2022 – February 2023*

Taught algebra and geometry to elementary and middle school students at Solomon Regional Children's Center.

### Programming experience.....

TypeScript, Next.js, React, Node.js, gRPC, WebSocket, REST APIs, Nest.js, Express.js, Fastify, C++, Java, ANTLR4,  $\LaTeX$ , Vim, Linux (Arch Linux on i3).

## Extracurricular activities

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**Choir (2013 – 2023):** Performed in *Turandot* and *Carmen* at Seoul Arts Center and Sejong Center for 6 years through Songpa-gu Youth Choir. Performed in various churches through Seoul Motet Youth Choir. Also performed in-school several times as a member of the school choir.

**Lacrosse (2022 – 2023):** Not particularly good, but improving. Our team won the national high school league in 2022.

**Pure math self-study (2023):** Reading books such as "Understanding Analysis" by Stephen Abbott, "Linear Algebra Done Right" by Sheldon Axler, and "Abstract Algebra" by Dummit and Foote.