

# Matthew Minwoo Kim

📍 Seoul, South Korea    ✉ matthewkim.stu@gmail.com    🌐 matmkim.me    in minwoo-kim-b24a48287

## Education

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| <b>Seoul National University</b><br><i>B.S. in Computer Science and Engineering</i> <ul style="list-style-type: none"><li>◦ GPA: 4.21/4.3 (70 credits)</li></ul> | <i>Seoul, South Korea</i><br><i>2023 – Present</i> |
| <b>Korea Science Academy of KAIST</b><br><i>High School Diploma</i> <ul style="list-style-type: none"><li>◦ GPA: 4.14/4.3 (top 10% of the class)</li></ul>       | <i>Busan, South Korea</i><br><i>2020 – 2023</i>    |
| <b>University of Cambridge</b><br><i>International Summer School</i> <ul style="list-style-type: none"><li>◦ Business and Entrepreneurship course</li></ul>      | <i>Cambridge, UK</i><br><i>Summer 2022</i>         |

## Research Experience

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| <b>Undergraduate Research Opportunity Program (UROP)</b><br><i>IDS Lab, Seoul National University</i> <ul style="list-style-type: none"><li>◦ Advisor: Prof. Sang-goo Lee</li><li>◦ Research Topic:<ul style="list-style-type: none"><li>– Text-to-SQL Generation using Intermediate Representation</li><li>– Resolving Ambiguity in Text-to-SQL Generation</li></ul></li></ul> | <i>Seoul, South Korea</i><br><i>Jul 2024 – Jul 2025</i> |
| <b>Research Project</b><br><i>Korea Science Academy of KAIST</i> <ul style="list-style-type: none"><li>◦ Research Topic: "A Secret Sharing Scheme without Third-Party Dealers"</li><li>◦ Resulted in Regeneron ISEF (International Science and Engineering Fair) South Korea Finalist</li></ul>                                                                                 | <i>Busan, South Korea</i><br><i>Feb 2021 – Feb 2022</i> |

## Publications

- [1] Seokhun Ji, Euisuh Jeong, **Minwoo Kim**, Hyojin Lee, "Deep Learning for Pavement Management System: Proposing an Automated Pipeline for Pavement Condition Index (PCI) Assessment", in *Journal of the Korean Society of Airport*

## Professional Experience

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| <b>AI Researcher</b><br><i>Republic of Korea Air Force</i> <ul style="list-style-type: none"><li>◦ Research and development of military-specific computer vision and speech-to-text systems</li></ul>                                                                                                                                                                           | <i>South Korea</i><br><i>Oct 2024 – Jul 2026</i> |
| <b>Research Team Intern</b><br><i>AIBIZON AI Lab</i> <ul style="list-style-type: none"><li>◦ Developed CRDT-based syncing between Slack and a database<ul style="list-style-type: none"><li>– Keywords: TypeScript, CRDT, Prisma, Database</li></ul></li><li>◦ Conducted an empirical study on RAPTOR (Recursive Abstractive Processing for Tree-Organized Retrieval)</li></ul> | <i>Online</i><br><i>Mar 2024 – Apr 2024</i>      |
| <b>Research &amp; Infra Team Intern</b><br><i>Hyperithm</i> <ul style="list-style-type: none"><li>◦ Developed &amp; maintained trading strategy tools<ul style="list-style-type: none"><li>– Keywords: Asynchronous Programming, TypeScript, Grafana, Python</li></ul></li></ul>                                                                                                | <i>South Korea</i><br><i>Jun 2023 – Aug 2023</i> |

- Developed HFT-optimized cryptocurrency exchange data feed
  - Keywords: Rust, Asynchronous Programming

## Awards & Achievements

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| <b>Regeneron ISEF (International Science and Engineering Fair)</b>    | <i>2022</i> |
| ◦ South Korea Finalist, Systems Software category (Team Leader)       |             |
| <b>R&amp;E Project Presentation Contest for the Scientific Talent</b> | <i>2021</i> |
| ◦ Grand Prize, Ministry of Science and ICT Award                      |             |

## Certificates

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| <b>SQL Developer</b>                    | <i>Jun 2024</i> |
| <b>Craftsman Information Processing</b> | <i>Apr 2024</i> |

## Research Interests

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- Natural Language Processing
- Computer Vision
- Multimodal
- Cryptography
- Algebra