

# Tran Duc Khang

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## Work Experience

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### SPhL 2024 Problem Setter

2023–present

*Singapore Physics League (SPhL)*

Set and review problems for the 2024 Singapore Physics League, a national, team-based physics competition similar to Physics Brawl.

### Space Systems Engineer Intern (R&D)

2023–2024

*Aliena Pte Ltd.*

Developed hardware and software for testing the Electronic Control Unit on Aliena's current Hall thruster.

Developed end-to-end software pipeline for remote automation of lab equipment for the purpose of product life-time testing.

## Projects

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### Shielding-Free Signal Noise Suppression in Portable Low-Field MRI

2022–2023

*Singapore University of Technology and Design*

**Singapore Science and Engineering Fair (SSEF): Silver**

Poster Presentation at [International Conference for Magnetic Resonance Microscopy 2023](#)

Developed a shielding-free signal noise suppression system for SUTD's portable magnetic resonance imager under the mentorship of Professor Huang Shaoying and her team ([Report](#)).

## Education

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### B.S.E. in Mechanical and Aerospace Engineering

2024–present

*Princeton University*

### Computer Science

2022–2023

*National University of Singapore (Dual Enrollment; Non-graduating)*

**Grade:** A+ (CS2100); A (CS2106)

Dual enrollment at NUS to satisfy Computer Science Honours requirements from NUS High.

### Computer Engineering

2022–2023

*National University of Singapore (Dual Enrollment; Non-graduating)*

**Grade:** A (CG1111A); A- (CG2111A)

Dual enrollment at NUS to satisfy Engineering Honours requirements from NUS High.

### NUS High Diploma, Singapore

2020–2023

*NUS High School of Math and Science*

**Cumulative Average Point:** 4.9 (*High Distinction*)

Enrolled in Year 3 (2020) under the A\*Star Scholarship.

Graduated with honours in Engineering and Computer Science and Majors in Mathematics, Chemistry and Physics.

#### **Clubs & Societies:**

Media Club (Video) Member (2020-2023)

Media Club(Video) Executive Committee Member (2022)

Physics Olympiad Team of NUS High (PhOToN) Member (2020-2022)

#### **Notable Physics and Engineering competitions:**

Singapore International Stem Innovation Challenge (2023): *Overall Second Place*

Singapore Physics Olympiad (2022): *Gold*

Singapore Physics League (2022, 2023): *Gold*

Singapore Junior Physics Olympiad (2021): *Gold*

# Technical Skills

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PROGRAMMING LANGUAGES	HTML, CSS, SCSS, JAVASCRIPT, TYPESCRIPT, PYTHON, C/C++, JAVA, KOTLIN, SQL, L <sup>A</sup> T <sub>E</sub> X, MATLAB, Mathematica
FRAMEWORKS	SVELTE, FLASK, JAVAFX, NODE.JS
PHYSICS	Classical Mechanics, Electrodynamics, Thermal Physics & Statistical Mechanics, Special Relativity
ELECTRONICS	KICAD, Circuit Analysis, Signal Processing
COMPUTER SCIENCE	Machine Learning (Natural Language Processing and Image Recognition), Operating System Design, Concurrent Programming, Low-level/Bare-metal Programming
VISUAL EFFECTS	Blender, Adobe Premiere Pro

# Soft Skills

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LANGUAGES	English, Vietnamese both at native fluency
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