Jamie Lim

Sophomore at MIT・+1 (857) 706-9435・jamielim@mit.edu / jamie.limjs@gmail.com・[LinkedIn](#) / [GitHub](#): jamieljs

EDUCATION

Massachusetts Institute of Technology Aug 2024–May 2028

Mathematics Major (Prospective Computer Science Double Major), Prospective Music Technology Minor・4.7/5.0
Asian Dance Team Cover Coordinator・Sport Taekwondo Treasurer・MIT Informatics Tournament Treasurer・MacGregor House Committee・Dormitory Council Underclassman Representative・E33 (Lighting Technicians) Training Chair; Former: MIT Wind Electrical Team・The Tech Technology Team・Spinning Arts

National University of Singapore (NUS) High School of Mathematics and Science Jan 2018–Nov 2023

Diploma (High Distinction)・4.9/5.0・Honors: Mathematics/Computer Science・Majors: Physics/Chemistry・Best in Subject for CS
CS Coursework: Object-Oriented Programming, Android Apps, Data Analytics, AI [Tensorflow], Database Design [SQL], Networking
Netball Vice-Captain・Students' Council Outreach In-Charge・Green Interest Group Executive・Physics Interest Group Executive

National University of Singapore (NUS) Non-Graduating Program Aug 2021–Jun 2023

CS Coursework: Intro to Operating Systems, Computer Organization; Math Coursework: Multivariable Calculus, Linear Algebra I/II

EXPERIENCE

Government Investment Corporation (GIC)・Software Engineer Intern Singapore・Mar–Jun 2024

- Full-stack development and future-proofing of web-based tools/dashboards on centralized analytics and execution platforms for monthly rebalancing (Fixed-Income/Multi-Asset department of Singapore's sovereign wealth fund)
- Setup of sandbox environments for development, both locally and in deployment

Temus・AI & Data Intern Singapore・Jan–Feb 2024

- Full-stack development of GenAI-powered tools (talent acquisition/development platform; prompt engineering training/testing site); revamped code architecture and enhanced codebase sustainability
- Planning/proof-of-concept creation for internal/client demonstrations (Temus is a digital transformation consulting firm)

Fabrica AI・Technical Intern (Software) Singapore・Oct–Dec 2023

- Developed embedded software and hardware tests for an automatic tile-grouting robot
- Operated and debugged the robot in trial runs in the office; experimented to optimize robot performance/quality
- Demonstrated robot functionality to the startup's business partners on-site

Defense Science Organization (DSO)・Research Intern Singapore・Mar–Dec 2022

- Developed reverse engineering tool that analyzes compiled binary files, automating the task of identifying known software vulnerabilities and their patches across 3 computer architectures; Singapore Science and Engineering Fair 2023 Finalists

AWARDS

Informatics Olympiads: IOI 2023 Bronze, APIO 2023 Silver, EGOI 2022/2023 Gold (Rank: 7/154, 8/189) 2018–2023

Mathematics Olympiads: APMO 2022 Honorable Mention, Tuymaada 2022 Silver, 2015–2023
CWMI 2019 Silver, Top 12 in Singapore IMO National Training Team in 2022/2023

Physics Olympiads: Singapore Junior Physics Olympiad 2021 Gold 2018–2022

PROJECTS

TheraScript・Computational Framework for Optimizing Therapeutics Mar 2025–Aug 2025

- Tuned, evaluated and compared models to predict mRNA stability and efficacy for drug discovery

AdPeek・Top 3 in National AI Student Challenge Feb–Mar 2023

- Led team of 4 pre-university students to win a hackathon by AI Singapore (>80 submissions, including university students)
- Designed and built a responsive React.js web application using AI Singapore's PeekingDuck computer vision pipeline to help businesses analyze the attractiveness/reach of their physical advertisements and viewer demographics

Diabuddy・Android Application for Diabetes Management 2020–2023

- Designed Android application in Java to make diabetes management more convenient and less stressful for patients
- Features: analyze glucose trends, send warnings/advice, track injection sites to prevent overuse/reduced insulin efficacy
- As a Type 1 Diabetic, I tapped on personal experience and conversations with nurses to build meaningful, unique features

PROJECTS (continued)

Codebreaker・Singapore's Informatics Olympiad Training Platform   2020–2023
- Developed front-end features with Flask/Bootstrap ([Codebreaker](#) has run official Singapore/Indonesia IOI team selection)
- Tracked AWS expenses and managed community donations as Finance In-Charge

Finding Colorful Trails・Top Prize in Singapore Mathematics Project Festival (Junior)   Jul 2019–Jun 2020
- Graph Theory research project: traversing colored edges on a graph such that no color is used more than once
- Published in Singapore Mathematical Society Mathematical Medley Vol. 46 No.1

SKILLS

Web	*React, Redux, Flask, Bootstrap, FastAPI*
DevSecOps	*Apache Airflow, Docker, GitHub/GitLab, OpenShift/Kubernetes/Helm*
Database	*SQL, Amazon Web Services, Google Cloud Platform, MongoDB*
Robotics	*Embedded Software, Automated Hardware Testing, Robot Operating System*
Languages	*[Programming] Python, TypeScript/JavaScript, HTML/CSS, C/C++, Java/JavaFX*
	[Natural] English (native/bilingual), Mandarin (native/bilingual), German (elementary)

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Volunteer Director・MacGregor House LGBTQIA+ Chair/Campus Preview Weekend Chair・Dormitory Council Underclassman
Representative・MIT Wind Electrical Team・The Tech Technology Team・MIT Spinning Arts

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Physics Olympiads: Singapore Junior Physics Olympiad 2021 Gold   2018–2022

PROJECTS

MIT Wind・2025 Collegiate Wind Competition Phase 3 Finalists   Sep–Nov 2024

- Designed state machine for turbine, tested electrical components

AdPeek・Top 3 in National AI Student Challenge   Feb–Mar 2023

- Led team of 4 pre-university students to win a hackathon by AI Singapore (>80 submissions, including university students)
- Designed and built a responsive React.js web application using AI Singapore's PeekingDuck computer vision pipeline to
  help businesses analyze the attractiveness/reach of their physical advertisements and viewer demographics

Codebreaker   2020–2023

- Developed front-end features with Flask/Bootstrap for [Codebreaker](#) (Singapore's Informatics Olympiad training platform, has run official selection for Singaporean/Indonesian international delegations)
- Tracked AWS expenses and managed community donations as Finance In-Charge

Diabuddy   2020–2023

- Designed Android application in Java to make diabetes management more convenient and less stressful for patients
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Robotics	*Embedded Software, Automated Hardware Testing, Robot Operating System*
Languages	*[Programming] Python, TypeScript/JavaScript, HTML/CSS, C/C++, Java/JavaFX*
	[Natural] English (native/bilingual), Mandarin (native/bilingual), German (elementary)

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EXPERIENCE

Government of Singapore Investment Corporation (GIC) · Software Engineer Intern · Singapore · Mar–Jun 2024
Sovereign Wealth Fund · React/Redux, SQL, AWS S3/EFS, Airflow, DevSecOps (Docker, GitHub/GitLab, OpenShift/K8s/Helm)

- Full-stack development of web-based tools/dashboards on centralized analytics and execution platforms, helping the Fixed-Income/Multi-Asset Department to analyze data / rebalance portfolios
- Future-proofing (maintenance/migration/updates) of core technologies needed for investment insights/research
- Setup of sandbox environments for development, both locally (Docker) and in deployment (Github Actions/OpenShift)

Temus · AI & Data Intern · Singapore · Jan–Feb 2024
Digital Transformation Consulting · Large Language Models, React.js, FastAPI, Google Cloud Platform, PostgreSQL, MongoDB

- Full-stack development of GenAI-powered tools (talent acquisition/development platform; prompt engineering training/testing site)
    - Designed new code architecture/data model/features (e.g. asynchronous queue to handle LLM rate limit, retrieval-augmented generation, PDF information extraction)
    - Revamped and enhanced sustainability of codebases for existing prototypes
- Planning/proof-of-concept creation for internal/client demonstrations

Fabrica AI · Technical Intern (Software) · Singapore · Oct–Dec 2023
Robotics Startup · Embedded Software, Robot Operating System, C++, Hardware Testing, Computer Networking

- Developed embedded software and hardware tests for an automatic tile-grouting robot
- Operated and debugged the robot in trial runs in the office; experimented to optimize robot performance/quality
- Demonstrated robot functionality to business partners on-site

Defense Science Organization (DSO) · Research Intern · Singapore · Mar–Dec 2022
Defense Research and Development · Reverse Engineering, Vulnerability Scanning, Cybersecurity, Ghidra, Scientific Communications

- Project: Automated Scanning of Software Patches in Compiled Binaries
    - Developed a reverse engineering tool that analyzes compiled binary files
    - Automated the task of identifying known software vulnerabilities and their patches across 3 computer architectures
- Qualified for the Singapore Science and Engineering Fair 2023 Finals
- Applications: vulnerability scanning software, tools to help developers identify upstream patches

EDUCATION

Massachusetts Institute of Technology · Fall 2024–Spring 2028
Prospective Computer Science and Mathematics Major, Music Technology Minor

- **Asian Dance Team (FA24–)**: Cover Coordinator (SP25–); understudy Covers filmer; performed in 2 dances in FA24 showcase
- **MIT Sport Taekwondo (FA24–)**: understudy Fundraising Chair; passed 2 belt tests with club, currently 8th Gup
- **MIT Informatics Tournament (FA24–)**: as Logistics team member, directed volunteers for 1.5-day 2025 Winter Contest (~150 in-person participants in 2 divisions) and crafted publicity materials/emails to promote contest (3000+ registered)
- **MIT Wind (FA24–)**: as Electrical team member, designed state machine for turbine and tested electrical components; advanced to Final Phase in 2025 Collegiate Wind Competition
- **MacGregor House Committee (FA24–)**: as LGBTQIA+ Chair (FA24–SP25), organized social events (e.g. dinner, baking) to promote inclusivity and belonging within dormitory; Campus Preview Weekend Co-Chair (SP25)
- **The Tech (FA24–)**: as Technology team member, helped maintain website/data for student newspaper (Ruby on Rails)
- **MIT Spinning Arts (FA24–)**: performed as part of a group glow set in FA24 fire show
- **Dormitory Council Underclassman Representative (SP25–)**

National University of Singapore (NUS) High School of Mathematics and Science · 2018–2023
Diploma (High Distinction) · 4.9/5.0 · Honors: Mathematics/Computer Science · Majors: Physics/Chemistry

- **Best in Subject (Computer Science)** for Graduating Class of 2023
    - Project-based modules: Object-Oriented Programming [Java/JavaFX], Mobile Applications [Java/Android, Firebase], Data Analytics [Python], Artificial Intelligence [Python/Tensorflow], Database Design [MySQL, Flask, Bootstrap, HTML/CSS/JS]
- **Netball (2018–2023)**: represented school in tournaments (Goal Shooter/Goal Attack), 'C' Division Vice-Captain 2019

- Trained new members; led warm-ups/drills; encouraged the team in competitions
- As Goal Shooter, I led the team to clinching Champion at the Deloitte Pesta Sukan Carnival 2022 during shoot-outs
- **NUSHrooms, Green Interest Group (2020–2022)**: Executive Committee 2020–2021, Founding Member in 2020
  - Brainstormed new initiatives; raised awareness of current environmental issues / initiatives / events through publicity
- **Students' Council (2020–2021)**: Outreach Committee and Website Team In-Charge 2021
  - Planned/executed school-wide (1000+ people) events (e.g. Staff Appreciation Day) / initiatives (e.g. feedback platforms)
  - Liaised with teachers and students to conceptualize and develop a student-oriented information repository / forum
- **Quanta, Physics Interest Group (2018–2020)**: Executive Committee 2020
- Led 6 other students on exchange with Fazekas Mihály School (Hungary); 1st in Kavics Kupa math contest against 8 teams

National University of Singapore (NUS) · 2021–2023
Non-Graduating Program: Mathematics and Computer Science

- CS: CS2106 Introduction to Operating Systems (A-), CS2100 Computer Organisation (A)
- Math: MA2104 Multivariable Calculus (A+), MA2101S Linear Algebra II (Special Program) (A-), MA2001 Linear Algebra I (A+)

COMPETITIONS

Informatics Olympiads · 2018–2023
C++, Data Structures and Algorithms

- International Olympiad in Informatics 2023: Bronze Medal (Rank 116/350)
- Asia-Pacific Informatics Olympiad 2023: Silver Medal (Rank 36/204)
- European Girls' Olympiad in Informatics 2022, 2023: Gold Medal (2022: Rank 7/154; 2023: Rank 8/189)
- International Olympiad of Metropolises (Informatics) 2020: Bronze Medal

Mathematics Olympiads · 2015–2023
Mathematical Proof-Writing, Problem-Solving in Algebra/Combinatorics/Geometry/Number Theory

- Asian Pacific Mathematical Olympiad 2022: Honorable Mention (Rank 9 in Singapore)
- International Tuymaada Olympiad (Senior Mathematics) 2022: Silver Medal (Rank 7/66)
- China West Mathematics Invitation 2019: Silver Medal (Youngest of 8 Singaporean participants)
- Singapore International Mathematical Olympiad National Training Team 2020–2023 (2022, 2023: Top 12)
- Qualified for American Invitational Mathematics Examination 2018 via American Mathematics Competitions 10 and 12

Physics Olympiads · 2018–2022

- Singapore Junior Physics Olympiad (2021: Gold Medal, one of ~20 students invited for 2022 European Physics Olympiad Selection Test; 2019: Silver Medal; 2018: Bronze Medal)

PROJECTS

AdPeek · Top 3 in National AI Student Challenge · Feb–Mar 2023
Computer Vision/AI, React.js, Project Management

- Led a team of 4 pre-university students to rank among the top 3 of over 80 submissions for the coding category of the National AI Student Challenge, a hackathon by AI Singapore for students (including university students)
- Designed and built a responsive web application using AI Singapore's PeekingDuck computer vision pipeline to help businesses analyze the attractiveness/reach of their physical advertisements and viewer demographics

Codebreaker · 2020–2023
Flask, Bootstrap, HTML/CSS/JS, Amazon Web Services

- Front-end development for [Codebreaker](#) (Singapore's Informatics Olympiad training platform, has run official selection for Singaporean/Indonesian international delegations, receives over 1 million requests monthly with 4000+ registered users)
- Finance In-Charge: tracked expenses, managed community donations

Diabuddy · 2020–2023
Java, Android application development, Firebase

- Android application designed to make diabetes management more convenient and less stressful for patients
  - Analyze glucose trends, receive warnings/advice, track injection sites to prevent overuse/reduced insulin efficacy etc.
- As a Type 1 Diabetic, I tapped on personal experience and conversations with nurses to build meaningful, unique features

Finding Colorful Trails · Top Prize in Singapore Mathematics Project Festival (Junior) · Jul 2019–Jun 2020
Graph Theory, Mathematical Proof-Writing, Scientific Communications

- Graph Theory research project involving traversing colored edges on a graph such that no color is used more than once
- Applications in areas using edge-colored graph modeling, e.g. round-robin tournaments, scheduling, fiber optics
- Published in Singapore Mathematical Society Mathematical Medley Vol. 46 No.1
- Singapore Mathematics Project Festival (Junior Section) 2020: Foo Kean Pew Memorial Prize, Gold Medal
- Singapore Science and Engineering Fair 2020: Junior Scientist Merit Award