Sirawit Pongnakintr

Curriculum Vitae

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Education

2021–2024 (tentative) **Bachelor of Science**, *École Polytechnique*, Palaiseau, France, *4.07/4.3 (first 5 out of 6 semesters)*
Double Major in Mathematics and Computer Science

2017–2020 **High School**, *Mahidol Wittayanusorn School*, Nakhon Pathom, Thailand, *3.81/4.0*
Science School

Experience

From July 2023 to August 2023 *full-time* **Research Assistant**, *The Institute of Theoretical Computer Science and Communications, The Chinese University of Hong Kong (ITCSC, CUHK)*, Sha Tin, Hong Kong SAR
Completed an 8-week research project on complexity theory, in particular, on promise constraint satisfaction problems, as a student of the Summer Research Program 2023. Supervised by Prof. Siu On Chan.

Since 2021 *part-time* **Competitive Programming Teaching Assistant and Assistant Coach**, *The Institute for the Promotion of Teaching Science and Technology (IPST)*, Bangkok, Thailand
Authored and prepared problemsets for the national competitive programming selection camp of Thailand. Coached representatives of Thailand for the International Olympiad in Informatics (IOI) during the summer of 2022 and 2023.

June 2020 *part-time* **Software Engineering Volunteer**, *Feeding Thailand*, Online
Volunteered as a back-end website developer for the charity project Thai food bank by Feeding Thailand to alleviate those in need during the COVID-19 situation.

From March 2020 to February 2021 *full-time* **Software Engineer**, *Brikl*, Bangkok, Thailand
Worked as a software engineering intern (using React, Three.js, and Fabric.js) between March and June of 2020. Worked as a full-time front-end software engineer on July and August, then switched to full-time back-end software engineer from December 2020 to February 2021.

2018–2020 *part-time* **Competitive Programming Instructor**, *Department of Computing, Silpakorn University*, Nakhon Pathom, Thailand
Invited as a competitive programming instructor (1-2 weeks per year), training younger high school students to compete at the Thailand Olympiad in Informatics (TOI).

Languages

Thai	Native
English	Fluent (C1)
French	Intermediate (A2/B1)

Computer skills

Programming Languages	C, C++, Python 3, JavaScript, TypeScript, x86, (and a little bit of Coq and Lean)
Software Development	Git, MySQL, PostgreSQL, Firebase, Docker, Docker Compose, Flask, AWS S3, AWS Lambda, Node.js, Serverless, React, Fabric.js, Three.js, Redux, Redux Saga, Make, CMake
Art and Design	Adobe Illustrator, Adobe Premiere Pro

Interests

Academic	**Number Theory, Algebraic Geometry, Complexity Theory**, Algorithms, Graphs, Problem Solving
General	Competitive Programming, Moral Philosophy, History of Mathematics

Achievements

2024 **Silver medalist**, *The 2023 ICPC Southwestern Europe Regional Contest (SWERC)*
As a team with Huy Le Quang and Gabriel Tostes, ranked 4 among 107 teams.

2020 **Bronze medalist**, *32nd International Olympiad in Informatics (IOI 2020)*
Ranked 119 among 343 contestants.

2019 **Bronze medalist**, *31st International Olympiad in Informatics (IOI 2019)*
Ranked 95 among 327 contestants.

2019 **Gold medalist**, *22nd National Olympiad in Informatics (NOI), Singapore*
Top 16 from 34 invited international contestants.

2017 **Gold medalist**, *13th Thailand Olympiad in Informatics (TOI)*
Top 8 from approximately 90–100 national contestants.

Activities and Popularizations

2020 **Co-founder**, *Thailand Computing Olympiad (THACO) 2020*, Online
Hosted an online competitive programming competition for Thai students and enthusiasts to practice and compete.

2020 **Mathematics Editor**, *The ResearcherTH*, Online
Helped in a podcast project maintained by a high school friend, Porames Vatanaprasarn. Authored and coauthored a few mathematical videos.

Lab Research Project

Title	*Introduction to Elliptic Curves*
Supervisor	Prof. Diego Izquierdo
Description	This lab research project is an individual study on introductory algebraic geometry, specifically on elliptic curves.
Project Report	`https://sirawit.pongnakin.com/elliptic_curves_report_rev2.pdf`

Bachelor Thesis

Title	*Elliptic Curves: Cryptography and Mordell–Weil theorem*

Supervisor	Prof. Diego Izquierdo
Description	The thesis is a continuation of the lab research project, exploring applications of elliptic curves in cryptography and the Mordell–Weil theorem over $\mathbb{Q}$.
Report	`https://sirawit.pongnakin.com/thesis_final.pdf`