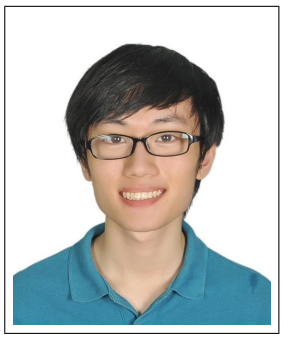

Trương Hoàng Long – CV

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		CodeForces	codeforces.com/profile/KonaeAkira
Mobile	(+41) 76 721 51 26	**LinkedIn**	www.linkedin.com/in/longhtruong
Email	longtruong2411@gmail.com	**Homepage**	konaeakira.github.io
Nationality	Vietnamese	**Birth year**	2000

Interests

Algorithmic problems, high-performance computing, physics simulations, computer vision.

Education

2019-2023 BSc. Computer Science (GPA 5.4) – ETH Zürich

2016-2019 Computer Science Honors – VNU-HCM High School for the Gifted

Employment History

Sep 2020 - Jan 2021 ETH Zürich
Teaching Assisstant

I was teaching assisstant for Algorithms Lab, a Master's level course on solving algorithmic problems using dynamic programming, network flow, computational geometry (Delaunay triangulation & Voronoi diagrams in particular), and linear programming.

Technologies: C++, CGAL (Computational Geometry Algorithms Library), BGL (Boost Graph Library)

Technical Skills

Programming languages	C, C++, Java, Python.
Supporting technologies	Linux, Git, Bash.

Languages

Vietnamese — Native
English — Bilingual-fluency (108/120 TOEFL iBT)
German — Bilingual-fluency (80/100 Goethe Zertifikat C1, Prädikat "gut")

Awards and Honors

2022	Winner, START Hack - SBB Challenge
2021	Silver Medal, ICPC Southwestern European Regional Contest (SWERC)
2019	Silver Medal, Vietnamese National Olympiad in Informatics (VOI)
2018	Silver Medal, ICPC Vietnamese National Contest
2018	Silver Medal, Vietnamese National Olympiad in Informatics (VOI)

Projects

- **SBB Bike Reservation Planner**

  Developed during 2022's "START Hack" Hackathon. Solves the problem of predicting bike crowdedness for future trains using k-means clustering.
  https://github.com/samuelbohl/START_HACK_2022_SBB

- **Skyblocker**

  A Minecraft fabric game modification that brings QoL changes to Hypixel Skyblock.

  Technologies: Java
  https://github.com/LifeIsAParadox/Skyblocker

- **Procedural Terrain Generation via Hydraulic Erosion Simulation**

  A program that simulates the effects of hydraulic erosion on a randomly sampled height map to produce realistic terrain.

  Technologies: C++
  https://github.com/KonaeAkira/erosion-sim

Research

- **Collecting privacy policies and terms & conditions on a regular basis (Bachelor thesis)**

  I improved upon previous work to create a web crawler that collects privacy policies and terms & conditions with high accuracy for use in future legal research.

- **Using the Shortest Path Faster Algorithm to find a negative cycle**

  I propose a modification to the Shortest Path Faster Algorithm (SPFA) to efficiently detect negative cycles in weighted directed graphs.

  https://konaeakira.github.io/posts/using-the-shortest-path-faster-algorithm-to-find-negative-cycles.html

- **Segmented SPFA: An improvement to the Shortest Path Faster Algorithm**

  I propose a way to improve the constant-factor in the runtime of the Shortest Path Faster Algorithm (SPFA) on weighted directed graphs that have a large amount of strongly connected components.

  https://konaeakira.github.io/posts/segmented-spfa-an-improvement-to-the-shortest-path-faster-algorithm.html