Trương Hoàng Long – Résumé

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Birthyear	2000	**Homepage**	konaeakira.github.io
Nationality	Vietnamese		

Introduction

Hi! I am a Computer Science student with a burning passion for programming and technology. Sometimes I work on fun projects and/or participate in programming competitions!

Education

2019-now BSc Computer Science - ETH Zürich

Basisjahr - 5.5 GPA

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 network flow, computational geometry (in particular Delaunay triangulations), and linear programming.

Technologies: C++, CGAL, BGL

Awards and Honors

2021	Silver Medal, ICPC Southwestern European Regional Contest
2019	Silver Medal, Vietnamese National Olympiad in Informatics
2018	Silver Medal, ICPC Vietnamese National Contest
2018	Silver Medal, Vietnamese National Olympiad in Informatics

Past Projects

- **Gomoku**

  Server and client for the classical game of gomoku (connect 5, tic-tac-toe). Written in Javascript.
  The server runs on Node.js and the server and client communicate over websockets.

  Technologies: HTML, CSS, Javascript, Node.js (express, websocket)
  https://github.com/KonaeAkira/gomoku

- **Minesweeper X**

  A bot based on image recognition that can play Microsoft's Minesweeper X on Windows 10.

  Technologies: C++
  https://github.com/kuroni/minesweeper-bot

- **IoT - Smart Greenhouse**

  A greenhouse that can be monitored and controlled remotely. Built based around the Intel Galileo single-board microcomputer and the NodeMCU single-board microcontroller.

  Technologies: Arduino (language), Lua, Intel Galileo, NodeMCU

Skills

- **Programming Languages**

  C, C++ - CGAL, Boost
  Javascript - jQuery, Node.js
  Haskell
  Python 3 - Pandas, Numpy
  Bash

- **Languages**

  Vietnamese - Native
  English - 108/120 TOEFL iBT
  German - 80/100 Goethe Zertifikat C1

Publications

- **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 with a large amount of strongly connected components.

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