Luong Doan

Site

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EMPLOYMENT

Vietnam Association for Information Processing — Vietnam
Algorithm researcher — *Dec. 2023 - Present*

- Proposed and prepared algorithms problems for national olympiads in informatics. Information about the preparation process is classified at national top secret and cannot be revealed in details.
- Judged national programming contests.
- Languages/Technologies used: Algorithms, Data Structures, C++.

Beyonds JSC — Vietnam
Co-founder and CTO — *Feb. 2024 - Present*

- Led and actively participated in the development of web services for one of the largest spiritual real estate projects in Southern Vietnam. Completely modernized the sales and product management processes for a private cemetery, streamlining operations and enhancing customer experience.
- Guided the company from its inception as a single-member entity to a fully-formed engineering team, successfully securing key contracts with partners.
- Languages/Technologies used: Python, Django, Celery, React, Remix, Azure.

iStorage Team — Vietnam
Full-stack Software Engineer — *Oct. 2022 - April. 2024*

- Worked on a team of three to develop a government document storage / archive system from scratch. The software support a wide range of digital transformation features such as full-text search on PDF documents, importing data from various sources, digital signature integration, storage space optimization.
- The work is deployed to use in the department of home affairs in a province and help reducing over 90% of labor efforts by automating the legacy workflow.
- Languages/Technologies used: Django, Pytorch, React, VietOCR, DigitalOcean.
- Backend repo: Service 1 Service 2 Service 3 Service 4.
- Frontend repo: Site 1 Site 2

Shopee — Singapore
Backend Software Engineer — *June. 2022 - Oct. 2022*

- Processing marketplace orders. Design, implement and self-test several API endpoints.
- Languages/Technologies used: Golang, Python, Django, Redis, MySQL, Docker, Linux shell, Google API, Amazon S3.

UNIST System Security Lab — South Korea
Research Engineer / Assistant — *Feb. 2021 - Feb. 2022*

- Developed a static analysis tool from scratch to mitigate the attack surface on C/C++ codebase (nginx, ngrok, httpd, curl, redis, memcached, etc.)
- The tool is built as an LLVM pass and helped to reduced over 10% vunerable system calls on average for binary-output of the above programs.
- Languages/Technologies used: Clang / LLVM, SVF (Static Value-Flow Analysis Framework).

VinAI Research — Hanoi, Vietnam
AI Engineer Resident — *Winter 2020*

- Worked on developing a natural language understanding system.
- Audited data and wrote evaluation scripts.
- Languages used: Python.

Cinnamon AI — HCMC, Vietnam
AI Researcher Intern — *June. 2019 - Aug. 2019*

- Worked on developing a Named-entity recognition model that can tag Japanese words in a text line with their corresponding type. The precision of the model was improved from 75% to 92% by using zero LSTM initial state and 99% by using non-zero LSTM initial state.
- Implemented data augmentation algorithms to automatically add noise to the dataset.
- Languages/Technologies used: Python, Pytorch, Tensorflow.

EDUCATION

- **Ulsan National Institute of Science and Technology**   Ulsan, South Korea
  Bachelor of Computer Science and Mathematical Science   *2017 - 2022*
  - Global Uni-Star Scholarship with full tuition and living expense support.
  - GPA: 89.20/100

HONORS AND AWARDS

- **Finalist of the AI Challenge Ho Chi Minh City 2024**   2024
  - Event retrieval from visual data.
- **22nd/135 place in the 2018 ACM ICPC Asia Seoul Regional Programming Contest**   2018
  - Competed in a team of three to solve 10-12 algorithmic problems in five hours contest using C/C++/Java.
- **Second prize in Vietnamese National Olympiad in Informatics in 2015**   2015
  - An annual programming contest held by the Ministry of Education and Training for Vietnamese high-school students. This is the preliminary contest for choosing representatives for the International Olympiad in Informatics (IOI).
- **First prize in National Informatics Competition for Youth**   2014
  - 1st place in the hardware programming subcontest.

PROJECTS / OPEN SOURCE CONTRIBUTION

- **Fengine Flag**   2024
  - Game-state illustrator for the group C1 of the National Informatics Competition for Youth.
  - Languages/Technologies used: TypeScript, React, MUI, Phaser.
  - Backend repo: Link
- **SkyOffice**   2024
  - Contribute to an immersive virtual office built (GatherTown-like).
  - Languages/Technologies used: TypeScript, React, Colyseus.
- **ChatBot with customized text-data source**   2023
  - ChatGPT-like conversation system to talk with private dataset of Nguyen Binh Khiem Gifted Highschool.
  - Languages/Technologies used: Python, Django.
  - Frontend repo: Link
- **LQD Online Judge**   2020
  - An online system for hosting programming contests based on the DMOJ open-source platform. LQD Online Judge also provides messaging service that allow the community on sharing ideas and discussing approaches to solve coding questions.
  - Languages/Technologies used: Python, Django framework, jQuery, MariaDB.
- **Hanh Trinh Magellan Season 2 platform**   2019
  - Developed a web platform for the contest "Hanh Trinh Magellan" that helps the moderator add, edit and show the questions in several styles (text, audio, video, crosswords, gomoku board); it also helps the contestants send their answers and AJAX requests (request answer permission, request to double their score) to the moderator.
  - Languages/Technologies used: Python, Javascript, HTML, CSS, Django framework, jQuery, Bootstrap.
- **ThemisRanking**   2016
  - Developed a tool that automatically generate a web-based scoreboard from the grading result of the Themis judger.
  - Languages/Technologies used: PHP, HTML, CSS.

ACTIVITIES

- **Mentor at Vietnam Central Summer School in Informatics**   2024
  - Taught data structures & algorithms for gifted high school teams in the central and northern of Vietnam.

- **Judge and problem setter at National Informatics Competition for Youth**   2024
  - Judge and problem setter for the group C1 - gifted high schools.

- **Problem setter at ICPC Vietnam Central Provincial Programming Contest**   2023 - 2024
  - Prepare programming challenges for the nation-wide online rounds of ICPC.

- **Admin and problem setter at [Le Quy Don's online judge]**   2018 - 2020
  - Manage over 3000 users of the platform and contribute data structures & algorithm problems for online contests.

- **Algorithms tutor for National Olympiad team**   2017 - 2024
  - Taught data structures & algorithms for 12 members of the talented teams preparing for the Vietnamese National Olympiad in Informatics at Nguyen Binh Khiem High School for the Gifted and Le Quy Don High School for the Gifted.

- **Problem setter at Ho Chi Minh University of Technology**   2016 - 2017
  - Create problemsets for BKIT Contest and Hau Due Pascal Contest, which are well-known annual programming contests of this university.