NGUYEN VIET SANG

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OBJECTIVE

To become a research specialist in the field of Information and Network Security

EDUCATION

- **University of Limoges, France** Expected: 09/2021
  Master CRYPTIS; Cumulative GPA: 14.85/20 *Rank 2/20*

- **University of Technology, VNU-HCM, Vietnam** HONORS PROGRAM - 06/2019
  Bachelor of Engineering in Computer Science; Cumulative GPA: 8.35/10 *Top 5% among $\sim$ 300 students*
  - **Thesis: Build a Question-Answering System based on Deep Learning (9.6/10)**
    Re-implemented the Deep Learning model QANet to predict an answer for a question on an English passage based on the dataset SQuAD; Built a dataset for Vietnamese (about 10K samples). Built a model based on QANet working on Vietnamese (Exact Match 61.0%, F1-score 76.6%).

EXPERIENCE

- **XLIM** Limoges, France
  Research Scientist Intern *06/2020 - 08/2020*
  - **Pre-filtering in Pub/Sub systems:** Implemented an encrypted matching scheme. Embedded Bloom Filter and Cuckoo Filter into broker to pre-discard costly matching operation. Compared their performances.

- **Knorex** Ho Chi Minh City, Vietnam
  Research Scientist Intern *06/2018 - 08/2018*
  - **Language Detection:** Fixed bugs. Evaluated and improved 60% in accuracy when detecting Malaysian and Indonesian. Added the ability to detect 5 new languages.
  - **Keys Mining:** Evaluated and improved 10-20% in accuracy to extract keywords related to a topic in passages. Added the ability to extract keywords for 5 new languages.

- **ML4U Research Group** Ho Chi Minh University of Technology, Vietnam
  Research Scientist *01/2018 - 06/2019*
  - **NLP Techniques:** Collected new techniques through papers and applied to projects.
  - **Knowledge sharing:** Weekly intensively reading seminars in "Machine Learning" coordinated by lecturer at University of Technology, VNU-HCM

PROJECTS

- **NIDS based on Deep Learning:** Built a real-time Network Intrusion Detection System (NIDS) by combining AI and Big Data technologies. Implemented with Snort (to detect suspect traffic), Kafka (to coordinate data thanks to consumer and producer), Deep Learning (to build model based on dataset KDDCup99 and predict type of attacks), Zeek (to transform pcap to readable data), Spark (to convert data to KDD99Cups format).

- **Mini C (Principles of Programming Languages):** Used Scalar to implement the interpreter/compiler of a new language called Mini C which consists of a subset of C plus some Java language features. Implemented and wrote test cases for lexical analyzer by using ANTLR, syntax analyzer by generating abstract syntax tree (AST), semantic analyzer (e.g. type compatibility, scope constraints) and code generator (for a stack-based machine like JVM).

- **Smart Light (Global Project Based Learning):** Led a team of 6 members, including Vietnamese and Japanese students. Designed a system with automatic light control and alarm for theft warning. Built an Arduino circuit and wrote C program

- **LineXO:** Worked with a team of 4 members to build an Android application of game. Designed database and implemented with Firebase.

Skills

- **Programming:** Python, C/C++, Java, SQL, Scalar, MATLAB, LaTeX
- **Languages:** Vietnamese (mother language), English (fluent), French (pre-intermediate)

Honors/Awards

- **Award for Outstanding Student** in Honors Program, University of Technology, VNUHCM, 2017, 2018.
- **Honourable Mention Prize,** National Excellent Student Competition in Physics for High School Students and given Certificate of Chairman of Peoples Committee of Dak Lak Province for Outstanding Performance.
- **Gold Medal (11th Grade), Silver Meldal (10th Grade)** in Physics, "30 April" Olympic Contest in Ho Chi Minh City for High School Students in the South of Vietnam
- **1st Prize (9th and 12th Grades), 2nd Prize (11th Prize),** Dak Lak Provincial Competition in Physics.
- **1st Prize,** Dak Lak Province Competition in Mathematics on Calculators for High School Students of 12th Grade.
- **3rd Prize,** National Competition in "Physics and the Youth Journal" for High School students.

Social Activites/Services

- **Captain,** Spring Voluntary Campaign (01/2016): Provided orphaned and poor children in Binh Duong Province with food and handmade toys; collected and recycled garbage in Ward 14, Dist 10, HCMC.
- **Vice-Captain,** Green Summer Voluntary Campaign (06/2016): Planted trees in Di An Town; Fixed computers and provided new facilities for a Primary School
- **Chief of Organization Committee,** Camp (10-11/10/2016): Prepared and organized programs and facilities for over 200 students in 2 days of camping.
- **Member,** Tay Nguyen Youth Summit (08/2016): Did research on the most popular careers in Da Lat City; presented my project and discussed with other members.

References

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