

# Do Duc Anh Nguyen

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Born 15/10/1997 in Vietnam

## Education

- 2020-Present **Master of Security Information**, University of Limoges, France.  
GPA (M1): 14.877/20 - Rank 4/20
- **Advanced Cryptography:** Learning techniques used for sharing secret key, notions of key generation algorithms (LFSR), zero-knowledge and postquantum cryptography.
- 2015–2019 **Bachelor of Engineering in Computer Science**, Ho Chi Minh City University of Technology HCMUT, Vietnam.  
GPA: 7.94/10 - HONORS PROGRAM
- **Cryptography and Information Security:** Course of the introduction to cryptography (encryption techniques, security attacks,...)
- Score: 9.0/10
- **Traffic Light Control System (Thesis):** Using Deep Reinforcement Learning to implement a model to control the traffic light aiming to reduce the waiting time of vehicles. Built a simulation system, analyzed different models and training strategies.
- Score: 9.6/10

## Working Experience

- 2018–2020 **Backend Developer**, Zalo Group, VNG Corporation, HCMC, Vietnam.  
\* Home page: <https://www.vng.com.vn/>
- **Major servers building**  
Used network protocols (HTTPS, TCP, UDP) to implement new features at central servers with association of database NoSQL.
  - **Code Optimization & Congestion Management**  
Handled a vast number of requests of more than 100 million users per day by permanently testing and optimizing the system. Managed troubleshoot server congestion in rush hours.
  - **Monitoring Tool**  
Built a tool crawling consuming resources from differential servers to detect incidents of servers and notify admins through mobile applications.
- 2018–2020 **Research Member**, ML4U Research Group, HCMUT, Vietnam.
- **Doing research**  
Participated in weekly seminars about Machine Learning coordinated by lecturers at HCMUT. Cooperated with a teammate to organize a seminar every two weeks to present and discuss the topic of Traffic Light Control System.

## Achivements & Scholarships

- **Full Studying Overseas Scholarship**, Vingroup, 2020.
- **Scholarships** for Outstanding Student, HCMUT, 2019.
- **Scholarships** for Talent Students in Honors Program, HCMUT 2016, 2017, 2018.
- **Highest Score Students** (Top 0.1%/300.000) in National High School Graduation Examination, 2015.

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## Skills

- Programming Languages: Java, C/C++, Python, Javascript, HTML, CSS.
- Languages: English (fluent), French (A2), Vietnamese (mother tongue).
- Technology experience: Elasticsearch API, Apache Thrift, Apache Kafka, MongoDB, Jetty Servlet, Keras, TensorFlow.

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## Course Projects

- **Networking Infrastructure Building**, May 2021  
Configured iptable rules of routers to pass two type of connections: Internet connection through the normal way & VLAN connection between two private networks through Tunnel with IPSec.
- **Private Networking Firewall**, January 2021  
All the internet requests from these hosts are managed by Firewall set up on virtual router. These requests are redirected to login page and must be logged on before being authorized to access Internet.
- **Packet Translation**, April 2021  
Built packet translation to make connections (using simple protocols TCP or UDP) between IPv4 and IPv6 devices behave as normal connections.
- **Shared Secret Key Simulation**, May 2021  
Implemented QC-MDPC Key Exchange protocol (same idea with Diffie-Hellman). BitFlipping algorithm is utilized to recover shared key after Challenge-Answer step of two communicators.
- **Intrusion Detection System**, March-May 2021  
Trained a Deep Learning Network model to automatically detect most of the networking attacks such as Dos, Probe, etc. Built a program to capture packets and convert them into dataset's form to simulate real-time detection.

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## Social activities

- **Green Summer Voluntary Campaign:** Participated in building new roads in a poor village of Ben Tre province, Vinh Hoa commune. (June - August, 2017)
- **Mid-autumn Festival:** Organized a Moon Festival for an elementary school with food and handmade lantern in Ben Tre province, Vinh Hoa commune. (October 2016 & October 2017)
- **The House of Love::** Contributed food, handmade toys to orphans and helped them to clean their home in Binh Duong province. (October 2015)

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## References

- **Assoc. Prof. Emmanuel Conchon**  
Cryptis Program  
University of Limoges, XLIM  
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