Minh Nguyet **Nguyen**

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Education

École Polytechnique Fédérale de Lausanne (EPFL)
Lausanne - Switzerland

M.Sc. in Electrical and Electronic Engineering
Sep. 2018 - April. 2021 (Expected)

Hanoi National University of Education (HNUE)
Hanoi - Vietnam

B.S. in Physics, specialized in Electronics
Sep. 2014 - May 2018

- Class rank: 1st / 115

Skills

Programming Python - MATLAB - LabVIEW - Mathematica
Research Mechanical skills - Circuit design - Organizational skills - Data analyzing - Problem solving
Languages High proficiency in English: TOEFL iBT 115/120, C1 CEFR - Native Vietnamese

Research

LTS5 Signal Processing Laboratory
Lausanne - Switzerland

3D tissue segmentation - under the instruction of Professor Jean-Philippe Thiran
Feb. - Jun. 2019 (Expected)

- Use semi-automatic tools to train and classify image stacks of brain's white matter tissue
- Employ the classified labels to generate a 3D mesh model of the tissue compartments, which could provide crucial information about the properties of the axons.

IMS-Metagroup
Hanoi - Vietnam

Tunable metamaterial absorbers design
Sep. 2017 - Apr. 2018

- Designed metamaterial absorber (MA) structures working in THz region, utilized vanadium dioxide, indium antimonide and graphene to achieve optical, thermal and electrical tunable MAs respectively
- Graduation thesis title: Impact of external factors on electromagnetic properties of tunable metamaterial absorbers in terahertz region.

Department of Theoretical Physics, Faculty of Physics, HNUE
Hanoi - Vietnam

Mathematica simulation
Sep. 2017 - Dec. 2017

- Implemented Mathematica in simulating Physics phenomenon, especially in solving real collision problems to find the consequent movement of objects with high exactness.

Work Experience

Centre for Quantum Technologies, National University of Singapore
Singapore

R & D Intern - under the supervision of Professor Christian Kurtsiefer
June - Aug. 2017

- Studied and fabricated frequency modulation (FM) spectroscopy boards to control two piezoelectric crystals used for optical cavities. Upgraded prior boards to the new ones with two controllers. Built a simple optical cavity testing performance of new FM boards before implementing them to current ones; studied resonator modes of optical cavities.
- Studied the expansion of glues and their impacts on constructing cavities; analyzed data. Maintained electrical equipment, reduced noise from some electrical source racks, fixed dysfunctional FM boards.

Institute of Materials Science - Metagroup, Vietnam Academy of Science and Technology

Hanoi - Vietnam

Research Assistant - under the instruction of Professor Lam Vu Dinh *2016 - 2018*

- Design metamaterial absorber structures to attain nearly perfect absorption, negative refractive index and tunable characteristics; optimize parameters for broadband high performance. Use simulation software with finite integration technique to study interaction between electromagnetic waves and metamaterial structures.
- Fabricate metamaterial structures with specialized system using photolithography method. Read, comment and edit papers for other members.

International Training Institute of Materials Science

Hanoi - Vietnam

Research Assistant - under the instruction of Professor Hieu Nguyen Van *Apr. - July. 2018*

- Use machine learning in recognizing gases for sensor applications.
- Build and optimize LabVIEW programs with effective user interface for multi-gas sensors data acquisitions and analysis, for mass flow automatic control.

Projects

Spammers detection on social network - EE-558

- Studied users' behaviors on social networks, in particular `tagged.com`. Detected suspicious activities based on the friendship network pattern.

Image processing - EE-451

- Apply deep neural networks for spotting verroas (a type of bug) on bee-hives images.

Machine learning in Physics

- Process videos from TCV tokamak fusion reactor experiments
- Use machine learning tools to identify outer divertor legs, in order to keep the plasma's heat exhaust from melting the reactor by measuring atomic radiation from the edge of the plasma.

Honors & Awards

- Bertarelli Fellowships in Translational Neuroscience and Neuroengineering
- 4 years Dean's List Honors from 2015 to 2018
- Scholarship of Vietnam Australia International School for Honor students

Publications

1. Trinh Thi Giang, Vu Dinh Qui, Le Dinh Hai, Nguyen Van Cuong, **Nguyen Minh Nguyet**, Le Dac Tuyen, Vu Dinh Lam, *"Broadband negative refractive index metamaterial in the GHz regime"*, Vietnam National Conference on Solid state Physics and Materials Science, page 42 - 46, 2017. .

2. Pham Thi Trang, Tong Ba Tuan, Trinh Thi Giang, **Nguyen Minh Nguyet**, Du Thi Xuan Thao, *"2D metamaterial absorber based on ring structure"*, Journal of Military Science and Technology CBES2, page 168 - 172, 2018.