Phuc Viet Khoa NGUYEN

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Education

Polytechnic University of Hauts-de-France (UPHF)   *Valenciennes, France*
PhD Student   *Oct 2023 - Present*
- Computational Mechanics

INSA Centre Val de Loire   *Blois, France*
Engineer's degree   *Sept 2020 - Sept 2023*
- Speciality Mechanical Engineering and Design
- **Courses:** Numerical analysis, Finite elements analysis, Fluid mechanics, Continuum mechanics, Fatigue and fracture mechanics, Polymeric and composite materials, Robust optimization, Object-oriented programming C++, Vibrations and acoustics.

INSA Centre Val de Loire (Speciality approved by Polytech Orléans, Polytech Tours and INSA Cvl)   *Blois, France*
Master 2 of Mechanics   *Sept 2022 - Sept 2023*
- Double Mechanical master's degree (Master Sciences, Technologies, Santé, Mention Mécanique)
- **Courses:** Aerodynamics, Experimental vibration analysis, Crash, Nonlinear mechanics, Advanced finite element method, numerical simulation of multi-physics coupling, Energy transfer in turbomachinery.

Hue University of Education   *Hue, Viet nam*
BAC+2 - Preparatory class   *Sept 2018 - Jul 2020*
- **Courses:** Fundamental mathematics (calculus, linear algebra, probabilities, and statistics) and physics (mechanic, thermodynamic, optic, electronic), chemistry, C programming.

Work Experience

ONERA - PhD Student   *Lille, France*
Subject: Non-linear super finite element for the modeling of assemblies in structural computations.   *Oct 2023 - Current*

STMicroelectronics - Mechanical modeling/simulation engineer intern   *Tours, France*
Subject: Numerical methods for the simulation of the deformations of silicon wafers.   *Feb 2023 - Aug 2023*
- Study of the static behavior of silicon wafers with periodic cells using domain decomposition methods.
- Implement the FETI (finite element tearing and interconnecting) domain decomposition method and consider thermal loads that occur during manufacturing processes in MATLAB. Model the periodic structures whose cells have characteristics that can change using interpolated models.
- **Supervisor:** Fabrice ROQUETA
- **Keywords:** FETI, periodic structure, MATLAB, COMSOL, mechanical deformation, numerical simulation and modeling, silicon wafer.

CAILLAU - Mechanical engineering intern   *Romorantin-Lanthenay, France*
Subject: Study the numerical characterization of a cold plate type heat exchanger.   *Apr 2022 - Jul 2022*
- Study of the influence of input parameters on the performance of the heat exchanger to cool battery packs in electric vehicles.
- Bibliographic study - Numerical modeling (thermal model and CFD-thermal coupling) - conducting experiments and comparison of the numerical model with these tests - Characterization and optimization of the system studied.
- **Supervisor:** Kévin MARCHAL
- **Keywords:** ANSYS, thermal management, fluid mechanical, numerical simulation and modeling.

Skills

Knowledge	Numerical modeling and simulation, Finite elements method, Deep learning, Neural network.
Programming	Python, MATLAB, Julia, R, C/C++.
CAE/CAD	ANSYS, Abaqus, COMSOL, Cast3M, FEniCXs, Msc Patran, SolidWorks.
Miscellaneous	Linux, GMSH, Github, LaTeX, Pack Office, Visual studio code, Scilab, Simulink.
Languages	French (Professional proficiency - DELF B2), English (Professional proficiency - TOEIC 845), Vietnamese (Native proficiency).

Certifications

2023	**Coursera**, Neural Networks and Deep Learning. Certificate	*France*
2022	**Coursera**, Fundamentals of Fluid-Solid Interactions. Certificate	*France*
2022	**Coursera**, Computers, Waves, Simulations: A Practical Introduction to Numerical Methods using Python. Certificate	*France*
2018	**3rd prize**, Vietnam National Physics Olympiad	*Vietnam*

References available upon request.