Sy Nguyen-Van

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Profile

- I am currently a Ph.D. candidate at University of Connecticut (USA) and is advised by Professor. Julian Norato. I received my B.S. and M.S. in Mechanical Engineering from Thai Nguyen University of Technology (Vietnam) in 2015 and Sejong University (South Korea) in 2019, respectively. My research interests focus on computational mechanics, topology optimization, machine learning and data science.
- A very active researcher in Computational Mechanics, Topology Optimization, Machine Learning and Data Science.

Education

09/2017–08/2019 Master in Mechanical Engineering
Sejong University Seoul, South Korea

- A multi-nozzle cable-driven parallel robot for 3D printing construction: vibration analysis, path optimization, and control
- GPA: 4.21/4.5

09/2010–06/2015 B.S. in Mechanical Engineering
Thai Nguyen University of Technology Thai Nguyen, Vietnam

- GPA: 3.31/4.0

Work

07/2015–09/2015 Engineer
Canon Bac Ninh, Vietnam

- Design and manufacturing of printers

12/2015–08/2017 Lecturer
Thai Nguyen University of Technology Thai Nguyen, Vietnam

- Teaching: Machine and mechanism designs, Finite element method, Modeling of dynamic systems

09/2017–08/2019 Researcher
Sejong University Seoul, South Korea

- Cable driven parallel robots: Vibration, optimal control and path optimization
- 3D printing in construction
- Collision between human and mobile robots

09/2019–present Lecturer
Thai Nguyen University of Technology Thai Nguyen, Vietnam

- Teaching: Machine and mechanism designs, Finite element method, Modeling of dynamic systems
- Researcher in Computational engineering, Deep learning, Engineering optimization

Skills

MATLAB & Simulink	
Python	
Latex	
Autodesk Inventor	
Ansys	
Siemens NX	
Abaqus	

AWARDS

05/2014	Third award **National Mechanic Olympic Contest**	Hanoi, Vietnam
01/2015	January Star Award **Vietnamese Students' Association**	Hanoi, Vietnam
09/2017–08/2019	Full scholarship for Master's degree **Sejong University**	Seoul, South Korea

PUBLICATIONS

International Journals

- **Sy Nguyen-Van**, Khoa T.Nguyen, Van Hai Luonge, Seunghye Lee and Qui X.Lieu, *A novel hybrid differential evolution and symbiotic organisms search algorithm for size and shape optimization of truss structures under multiple frequency constraints* , **Expert Systems with Applications**. 184 (June) (2021) 115534, (**SCIE-Q1, IF=6.954**)
- **Sy Nguyen-Van**, Khoa T.Nguyen, Khanh D.Dang, Nga T.T.Nguyen, Seunghye Lee and Qui X.Lieu, *An evolutionary symbiotic organisms search for multiconstraint truss optimization under free vibration and transient behaviors* , **Advances in Engineering Software**. 160 (October) (2021) 103045, (**SCIE-Q1, IF=4.141**)
- **Sy Nguyen-Van**, Kwan-Woong Gwak, Duc-Hai Nguyen, Soon-Geul Lee and Byoung Hun Kang, *A novel modified analytical method and finite element method for vibration analysis of cable-driven parallel robots*, **Journal of Mechanical Science and Technology**. (September) (2020), (**SCIE-Q2, IF=1.734**)
- **Sy Nguyen-Van** and Kwan-Woong Gwak, *A Two-Nozzle Cable-Driven Parallel Robot For 3D Printing Building Construction: Path Optimization and Vibration Analysis*,(2022) **The International Journal of Advanced Manufacturing Technology**, (**SCIE-Q1, IF=3.226**) .
- **Sy Nguyen-Van**, Qui X.Lieu, Xuan-Mung Nguyen, Thi Thanh Nga Nguyen, *A new study on optimization of four-bar mechanisms based on a hybrid-combined differential evolution and Jaya algorithm*, **Symmetry**, (**SCIE-Q2, IF=2.713**).
- T.T.N. Nguyen, T.X. Duong, and **S. Nguyen-Van**, *Design General Cam Profiles Based on Finite Element Method*, **Applied Sciences**. 11 (13) (2021) 6052, (**SCIE-Q2, IF=2.679**)
- **Sy Nguyen-Van** and M.-Q. Tran, *Steady-state and Time-history Analyses for a Spatial Cable-driven Parallel Robot*, **International Journal of iRobotics** 4 (2) (2021) 1–7.
- **Sy Nguyen-Van** and Qui X.Lieu, *A single-step optimization method for topology, size and shape of trusses using hybrid differential evolution and symbiotic organisms search* , **Computers and Structures** (Revision).

International Conferences

- **S. Nguyen-Van** and K.-W. Gwak, *A novel determination of boundaries of cable forces for cable-driven parallel robots with frequency constraint by using differential evolution algorithm*, **International Conference on Engineering Research and Applications**, (2019): pp. 35–46.
- **S. Nguyen-Van**, Ngoc Nguyen-Dinh, P. T. M. Duong, Nguyen Quang Hung and Thi Thanh Nga Nguyen, *The Dimensional Synthesis of the Four-Bar Mechanism with a Symbiotic Organisms Search Algorithm* , **International Conference on Engineering Research and Applications**, (2020): pp. 780–791.
- **S. Nguyen-Van**, Thi Thanh Nga Nguyen, Ngoc Nguyen-Dinh and Qui X. Lieu, *Truss Optimization Under Frequency Constraints by Using a Combined Differential Evolution and Jaya Algorithm* , **International Conference on Engineering Research and Applications**, (2020): pp. 861–873.
- **S. Nguyen-Van**, Diem Thi Thu Thuy, Nga Nguyen Thi Thanh and Ngoc Nguyen Dinh, *Evolutionary Tuning of PID Controllers for a Spatial Cable-Driven Parallel Robot* , **International Conference on Engineering Research and Applications**, (2020): pp. 411–424.
- **S. Nguyen-Van**, Thi Thanh Nga Nguyen, Luong Viet Dung, Duong Pham Tuong Minh, Nguyen Quang Hung, Nguyen Van Trang and Nguyen Thi Hoa, *Performance Evaluation of the Combined Differential Evolution and Jaya Algorithm for Structural Optimization Under Transient Excitations and 26 Mathematical Benchmark Functions* , **International Conference on Engineering Research and Applications**, (2021): pp. 775-785.
- Nguyen Dinh Ngoc, Duong Pham Tuong Minh, **Sy Nguyen-Van**, Luong Viet Dung, Nguyen Thi Thanh Nga, Nguyen Dang Hao and Hoang Tien Dat, *The Characterization of Machined Damage of CFRP Composite: Comparison of 2D and 3D Surface Roughness Performance* , **International Conference on Engineering Research and Applications**, (2020): pp. 771–779.
- Nguyen Thi Thanh Nga, **Sy Nguyen-Van**, Nguyen Thi Bich Ngoc and Vu Thi Lien, *An Evaluation of B-Spline for Synthesis of Cam Motion with a Large Number of Output Conditions* , **International Conference on Engineering Research and Applications**, (2020): pp. 173–180.
- Nguyen Thi Thanh Nga, Nguyen Thi Bich Ngoc, **Sy Nguyen-Van**, Nguyen Dinh-Ngoc, Nguyen Quang-Hung and Hoang Tien Dat, *Simulated Annealing Algorithm for Modeling Large Deflection of Flexible Links in Complaint Mechanisms* , **International Conference on Engineering Research and Applications**, (2020): pp. 729–740.
- Duong Pham Tuong Minh, Ngo Nhu Khoa, **Sy Nguyen-Van**, Nguyen Thi Hoa, Ngoc Nguyen-Dinh, Nguyen Quang Hung, Hoang Tien Dat and Luong Viet Dung, *A Numerical Model for the Composite Sandwich Panel in Vibration by the Homogenization Method* , **International Conference on Engineering Research and Applications**, (2021): pp. 79–88.
- Thi Thanh Nga Nguyen, **Sy Nguyen-Van** and Minh-Quang Tran, *Knot Vector Optimization of NURBS for High Speed Cam Mechanisms Based on Dynamic Characteristics* , **International Conference on Engineering Research and Applications**, (2021): pp. 558-564.

LANGUAGES

IELTS: An Overall Band Score of 6.5

PERSONAL WEBSITES

» **Google scholar**

» **Researchgate**

REFERRER

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