Luong Phat Nguyen

AI Research Scientist at Trax Retail

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Experiences

2021 – Today **Artificial Intelligence Research Scientist**, *Trax Retail*, Research lab, Paris.
Keywords: Augmented reality, 3D vision, object recognition, deep learning etc.

2018 – 2021 **PhD Candidate in Computer vision**, *Laboratoire d'Informatique Fondamentale et Appliquée de Tours*, Tours, **Extraction and Characterization of Spatial-Temporal Patterns in Videos**.
Keywords: video analysis, spatio-temporal pattern, sequence analysis, data mining, pattern recognition.
Supervisors: Julien Mille, Nicolas Ragot, Dominique Li et Donatello Conte

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03 – 08/2018 **Research internship in Machine Learning and Embedded Software**, *RF-TRACK*, Rennes, **Theorical Research of characteristic motifs of accelerometer signals, creation of algorithms and algorithm embedding in microcontroller**.
Keywords: activity detection, signal processing, machine Learning, embedded software, ST Microchip.

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04 – 08/2017 **Research internship in Machine learning**, *Laboratoire de Traitement du Signal et de l'Image*, Rennes, **Comparison of fall detection algorithms in the context of home care**.
Keywords: Classification of indoor activity, fall detection, accelerometer signals, machine learning.

Skills

Coding C/C++, Python, Swift, Matlab, Git, Bash, HTML/CSS, Javascript

Tools OpenCV, PyTorch, Keras, Conda, Google Colab, Git, Linux, LaTeX, Tensorboard

Machine Learning Deep Learning (CNN, GAN, LSTM, self-attention mechanism) | Support vector machine (linear, polynomial, RBF, χ^2) | Data mining (Prefix-Span, SPADE, BIDE)

Computer vision PDE-based methods (Horn-Schunk, Brox-Malik), Gaussian filter-based methods (SIFT, SURF, HOG, HOF, MBH)

Electronic Embedded systems (STMicrochip – STM32 Nucleo, Raspberry Pi), Embedded software (STM32CubeMX, STM Studio, System Workbench for STM32)

Languages French (fluent), English (fluent), Vietnamese (mother tongue)

Publications

Proceedings

2022 L. P. Nguyen et al. “Efficient dynamic texture classification with probabilistic motifs”. In: *2022 26th International Conference on Pattern Recognition (ICPR)*. IEEE. 2022, pp. 564–570.

2020 L. P. Nguyen et al. “Trajectory Extraction and Deep Features for Classification of Liquid-gas Flow under the Context of Forced Oscillation”. In: *15th International Conference on Computer Vision Theory and Applications*. 2020, pp. 17–26.

2017 L. P. Nguyen, M. Saleh, and R. L. B. Jeannès. “An efficient design of a machine learning-based elderly fall detector”. In: *International Conference on IoT Technologies for HealthCare*. 2017, pp. 34–41.

Education

2018 – Today **PhD Candidate in Computer Vision**, *Laboratoire d’Informatique Fondamentale et Appliquée de Tours*, Tours, Extraction and Characterization of Spatial-Temporal Patterns in Videos.

2015–2018 **Engineering Student**, *Institut National des Sciences Appliquées Centre Val de Loire*, Automatic Systems, Instrumentation and Industrial Computer Science, Blois.

2013-2015 **Engineering Student in preparatory class**, *University of Hue*, Hue, Vietnam.

Teaching experiences

5^{e} École Polytechnique de l’Université de Tours

2020 Neural networks – Deep Learning (Lectures and practical sessions)

3^{e} année INSA Centre Val de Loire - GSI

2019–2020 Object oriented programming – C++ (Practical sessions)

Master 2 of Big Data Management and Analytics

2018–2019 Introduction to Deep Learning (Practical sessions)

Distinctions

2016-2018 Bourse Rencontre du Vietnam Odon Vallet

2013-2014 2nd place in national contest in Physique

Hobbies

Spare time I love listening to acoustic music and reading in my spare time.

Sports To be in good shape, I play soccer with my friends on weekends and I run regularly.

References

Julien Mille.
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julien-mille.github.io

Nicolas Ragot.
nicolas.ragot@univ-tours.fr
https://www.univ-tours.fr/annuaire/m-nicolas-ragot