

Nguyen Hong Hai

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Education

Chonnam National University (JNU)

M.S. in Artificial Intelligence Convergence

Gwangju, South Korea, Mar 2021 - Feb 2023

Overall GPA: 4.29/4.5

Thesis: *Multi-space Fusion for Mental Workload Estimation based on Physiological Signal*. Advisor: Prof. Kim Soo-Hyung

Ho Chi Minh City - University of Science (HCMUS)

B.S. in Mathematics and Computer Science

Ho Chi Minh City, Vietnam, Sep 2014 - Sep 2018

Overall GPA: 3.24/4.0

Thesis: *Face recognition based on partial face..* Advisor: Prof. Pham The Bao

Experience

Innometry

Hwaseong, South Korea, Mar 2023 - Mar 2024

Artificial Intelligence Engineer

- **Data preparation:** Collect and label data from the data generation step. Clean and check the data set for missing or incomplete before the training step.
- **Image enhancement:** Convert X-ray image from High Dynamic Range (32bit) to Low Dynamic Range (8bit) for display on the device.
- **Object detection:** Using Image Processing and Deep Learning algorithms for detection of elements battery.
- **Deployment and improvement:** Integrate and test model in real-time on the machine in the factory. Ongoing improvement to adapt to new data and conditions.

Chonnam National University

Gwangju, South Korea, Mar 2021 - Feb 2023

Master's Student

- **Mental Workload Estimation:** Experiment with *STEW* dataset. We conducted experiments on classification and regression for Mental workload.
- **Stress Estimation:** Experiment with *Ulm-TSST* dataset, We conducted experiments on Valence-Arousal estimation in *Multimodal Emotional Stress Sub-challenge* in *Multimodal Sentiment Analysis Challenge (MuSe)*.
- **Valence-Arousal Estimation:** Experiment on the *Aff-Wild2* dataset. We achieved **3rd place** in *Task 1 - Valence-Arousal Estimation* in **Workshop and Competition on Affective Behavior Analysis in-the-wild**.

Sparx* - A Virtuos Studio

Ho Chi Minh, VietNam, Oct 2018 - Jan 2021

Pipeline Engineering

- R&D automation scripts and tools inside and outside a 3D application to help the artist can be quickly worked on.
- Installation and troubleshooting of software, plugins, and scripts.
- Supporting producers and team leaders in training for newbies.

Global Cybersoft Vietnam

Ho Chi Minh, VietNam, Jul 2017 - Sep 2017

Internship

Awards

Oct 2022	Best Paper , International Conference on Smart Media & Applications 2022 (SMA2022)	USA
Jun 2022	3rd place , Valence/ Arousal Estimation Challenge in Affective Behavior Analysis in-the-wild (CVPRW)	USA
Sep 2021	Best Paper , International Conference on Smart Media & Applications 2021 (SMA2021)	South Korea
Feb 2021	Scholarship , Global Scholarship - Chonnam Nat'l Univ.	South Korea

Selected Publications

Journal Articles

1. **H.-H. Nguyen**, K. I. Ngumimi, S. Kim, H.-J. Yang, and S.-H. Kim. Mental workload estimation with electroencephalogram signals by combining multi-space deep models. *Biomedical Signal Processing and Control*, Aug 2024, 94, 106284.

Conference Proceedings

1. E.-B. Choi, **H.-H. Nguyen**, T. N. Nguyen, and S.-H. Kim, "Stress analysis based on feature-level late fusion", in *Proc. Int. Conf. Smart Media and Applications (SMA2022)*, USA, Oct. 2022, pp. 110–114.
2. **H.-H. Nguyen**, V.-T. Huynh, and S.-H. Kim, "An ensemble approach for facial behavior analysis in-the-wild video", in *Proceedings of the IEEE/ CVF Conference on Computer Vision and Pattern Recognition Workshop*, USA, 2022, pp. 2512–2517.
3. **H.-H. Nguyen**, H.-J. Yang, G.-S. Lee, and S.-H. Kim, "Cognitive load classification using multimodal transformer encoder fusion combined with gaussian noise", in *Proc. Int. Workshop on Frontiers of Computer Vision*, Japan, Feb. 2022, pp. 481–488.
4. **H.-H. Nguyen**, V.-T. Huynh, H.-J. Yang, G.-S. Lee, and S.-H. Kim, "MAFCL: Multimodal attention fusion with combined loss for sentiment recognition in stress-induced circumstances", in *Proc. Int. Conf. Smart Media & Applications (SMA2021)*, Korea, Sep. 2021, pp. 16–19.

Skills

Programming Python, \LaTeX , MATLAB, C/C++, SQL, R.

Technical PyQt, PyTorch, OpenCV, TensorFlow.