Current Date [30/11/2024]

Name: YE HTET

Personal Profile

Birth Date: 19/07/1995
Age: 29
Sex: Male
Nationality: Myanmar
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Status of Residence: Student

Education Background

Graduate Course (Doctoral)

October/2021 – September/2024

University of Miyazaki, Miyazaki, Japan

Department of Materials and Informatics

Computer Science and Bioinformatics Course

Visual Information Laboratory

[Quick Summary] Conducted interdisciplinary research on stereo vision-based AI-driven smart aging solutions for elderly care. Specialized in integrating computer vision techniques and deep learning algorithms with behavioral data analysis to promote independent living and enhance well-being among elderly individuals in care environments.

Graduate Course (Master)

May/2017 – February/2020

University of Technology (Yatanarpon Cyber City), Pyin Oo Lwin, Myanmar

Faculty of Electronics Engineering

Major in Electronics

[Quick Summary] Gained expertise in Python, digital image processing, machine learning, and IoT sensor networks. Applied these skills to develop a smart irrigation system for year-round strawberry cultivation by controlling the water supply and environmental factors inside the greenhouse. Key research outcomes included effective monitoring of plant growth trends and early detection of nutrient deficiencies through computer vision and machine learning techniques.

Undergraduate Course

November/2011 – February/2017

University of Technology (Yatanarpon Cyber City), Pyin Oo Lwin, Myanmar

Faculty of Electronics Engineering

Major in Electronics

[Quick Summary] Focused on electronic engineering principles with hands-on experience in design and implementation. Bachelor's thesis centered on developing a low-cost quadcopter with stable navigation capabilities, emphasizing practical application in environmental monitoring.

Degree Obtained

Ph.D. (Computer Science)

13/09/2024

University of Miyazaki, Miyazaki, Japan

Computer Science

Thesis Topic – A Study on Real-time Elderly Monitoring and Behavior Analysis Using Stereo Depth Camera at the Elderly Care Center (Supervised by Professor Thi Thi Zin)

[Promotion Video] https://www.linkedin.com/feed/update/urn:li:activity:7204111439333134337/

Master of Engineering (Electronics)

16/02/2020

University of Technology (Yatanarpon Cyber City), Pyin Oo Lwin, Myanmar

Engineering

Thesis Topic – Intelligent Small Scale Strawberry Irrigation System for Different Weather Conditions (Supervised by Professor Htin Kyaw Oo)

Bachelor of Engineering (Electronics)

19/02/2017

University of Technology (Yatanarpon Cyber City), Pyin Oo Lwin, Myanmar

Engineering

Thesis Topic – Design and Implementation of Quadcopter using Autopilot Board (Supervised by Professor Htin Kyaw Oo)

Employment History

December/2019 – September/2021

University of Miyazaki, Miyazaki, Japan

Faculty of Engineering, Visual Information Laboratory

Researcher

- Development and maintenance of image processing, computer vision and machine learning related real-world applications, including handwritten character recognition and elderly action recognition systems.

- Collaboration with researchers in the team to design, implement, and test solutions.
- Co-authored an international journal publication and contributed to AI-driven real-world applications in education and healthcare.

November/2021 – June/2024

University of Miyazaki, Miyazaki, Japan

Department of Materials and Informatics

Teaching Assistant (Part-time Employee as Student)

- **[Subjects Taught]** Image Engineering, Image Processing Theory, and Information Theory
- Assisted the professor in delivering lectures and gained experience in the methods of teaching and mentoring students, including guiding them on assignments and lab activities.
- Reviewed students' assignments and homework involving information processing problems, algorithm design, and coding implementations.
- Provided constructive feedback and ensured accuracy by testing and validating students' solutions.

April/2022 – July/2024

University of Miyazaki, Miyazaki, Japan

Department of Materials and Informatics, Visual Information Laboratory

Research Assistant (Part-time Employee as Student)

- Engaged in collaborative research projects focused on real-world applications of image processing and AI to address societal challenges.
- **[Project 1]** Deep Learning-based Cow Monitoring System: Developed an AI-driven system utilizing multi-camera data to monitor livestock behavior, significantly reducing diagnosis time for farmers and promoting sustainable agricultural practices. Designed and implemented an efficient camera streaming solution using Python parallel programming.
- **[Project 2]** Cattle Lameness Detection System Using Machine Learning: Developed a cattle lameness detection algorithm using 4K and 3D cameras. Conducted machine learning-based classifications for identifying lameness scores for each cattle.

Honours/Awards

- 2024: Best Paper Award on 6th IEEE MASS Workshop on Smart Living with Iot, Cloud, and Edge Computing (Colocated with IEEE MASS 2024), Seoul, South Korea https://www.miyazaki-u.ac.jp/jisedai/topics/news/springslice2024best-paper-award.html
- 2022: Patent awarded https://www.j-platpat.inpit.go.jp/c1801/PU/JP-2022-149569/10/ja
- 2022: University of Miyazaki, President's Outstanding Presentation Award https://www.miyazaki-u.ac.jp/tech/agr_eng/mediafiles/presentation/r04_presen.pdf

Qualifications

- 2024: TensorFlow Developer Certificate https://www.credential.net/64286f9e-52fc-46a8-854d-48390895e0f7#gs.fsgbi9
- 2022: Japanese, JLPT N4, Passed (113 out of 180)
- 2021: English, TOEFL iBT, Passed (79 out of 120)
- 2020: English, TOEIC L&R, Passed (855 out of 990)

Research Funds and Scholarships

- 2021: Support for Pioneering Research Initiated by the Next Generation (SPRING) Program, Japan Science and Technology Agency (JST), 10/2021 – 09/2024

  Interview: https://www.miyazaki-u.ac.jp/jisedai/interview/interview01.html

  Research Incentives Grant: 180,000 Yen per month

  Research Funding: 400,000 to 700,000 Yen per year
- 2021: IUCHI Foundation Scholarship, 10/2021 – 09/2024 (30,000 Yen per month)
- 2021: Japan Student Services Organization (JASSO) Scholarship, 10/2021 – 04/2022 (48,000 Yen per month)

Activities

Volunteer Experience in Japan

2024: ICGEC International Conference <Homepage – https://icgec24.github.io/ >

- Assisted with program agenda scheduling, abstract book creation, and registration.
- Supported technical setup at the welcome ceremony and managed backstage operations for the Banquet and Farewell ceremony.

2024: Cultural Exchange with Local High School

- Volunteered in laboratory sessions to share cultural and scientific knowledge with high school students visiting from Hinokage to the University of Miyazaki.

2022 – 2024: Sakura Science Exchange Program

- Volunteered annually at the University of Miyazaki, hosting participants primarily from Southeast Asia, including Myanmar, Thailand, and neighboring regions like India and Mongolia.
- Activities included campus tours, research presentations, and hands-on lab sessions covering topics such as Raspberry Pi applications and website creation with Canva.

2022 – 2023: Online Session on Computer Vision Projects

- Participated as a knowledge-sharing speaker during the pandemic (Covid-19) in online sessions for Myanmar students, focusing on implementing TensorFlow-based deep learning algorithms in computer vision applications.
- Delivered tutorials and shared insights to support participants in developing their projects.

2021 – 2024: University Sports Clubs

- Actively participated in university sports clubs with international students, including ground tennis and table tennis.

Leadership and Training Experience in Myanmar

2017 – 2019: Mentorship of Undergraduate Projects

- Mentored undergraduate students during the Master's course, overseeing projects including line-following and self-balancing robots, as well as a smart city initiative.

2017 – 2019: Training Workshops

- Conducted training workshops at technological universities in Myanmar alongside a supervising professor, providing hands-on experience in electronic sensor devices and practical applications using Arduino and Raspberry Pi.

Technical Skills

- **Programming:** Proficient in Python for data analysis, with working knowledge of MATLAB and C for software development.
- **AI and Machine Learning**: Skilled in frameworks such as TensorFlow and PyTorch for developing intelligent systems.
- **Computer Vision**: Expertise in OpenCV, human action recognition, and stereo vision integration for analyzing image and video data.
- **IoT and Electronics**: Experienced with Arduino and Raspberry Pi for designing and implementing sensor-based systems.
- **Additional**: Knowledge of generative AI, multimodal data (text, images, audio, and video) fusion, and time-series modeling for problem-solving.

Language Skills

Japanese

Conversational level in speaking; reading proficiency above JLPT N4

English

Business level

TOEIC L&R 855, TOEFL iBT 79

Burmese

Native level

Research Interests

- **Computer Vision for E-commerce:** Developing solutions such as handwritten or optical character recognition for document analysis, with applications in financial systems.
- **AI for Smart Healthcare and Sustainable Systems**: Leveraging data analysis to develop AI-driven solutions that enhance healthcare delivery and promote sustainable practices.
- **Computer Vision and Human Behavior Understanding**: Exploring visual data to study human behavior patterns and address social challenges, such as aging populations and public safety.
- **Robotics and Multimodal Communication**: Integrating AI and behavioral insights to improve human-robot interaction and collaborative systems through diverse datasets.
- **Generative AI and GIS for Smart Cities**: Analyzing text data and spatial modeling to design intelligent urban systems that support sustainable and socially inclusive communities.

Publications List

Google Scholar Profile: https://scholar.google.com/citations?hl=en&tzom=-540&user=eddWB1sAAAAJ

Patent

[1] 推定装置、推定方法及びプログラム、特願 2022-149569、出願日：2022 年 9 月 20 日、発明者：ティティズイン、パイティン、イエテ、出願人：国立大 学法人宮崎大学 https://www.j-platpat.inpit.go.jp/c1801/PU/JP-2022-149569/10/ja

Peer-Reviewed Journals, First Author

[1] Ye Htet, Thi Thi Zin, Pyke Tin, Hiroko Tamura, Kazuhiro Kondo, Shinji Watanabe and Etsuo Chosa, "Smarter Aging: Developing a Foundational Elderly Activity Monitoring System with AI and GUI Interface", *IEEE Access*, vol.12, pp.74499-74523, May 2024, 25 pages **[IF: 3.4]**

[2] Ye Htet, Thi Thi Zin, Pyke Tin, Hiroki Tamura, Kazuhiro Kondo and Etsuo Chosa, "HMM-based Action Recognition System for Elderly Healthcare by Colorizing Depth Map", *International Journal of Environmental Research and Public Health*, vol.19, issue.19, September 2022, 21 pages

[3] Ye Htet, Htin Kyaw Oo and Thi Thi Zin, "Smart Irrigation: An Intelligent System for Growing Strawberry Plants in Different Seasons of the Year", *ICIC Express Letters*, vol.12, no.4, pp.359-367, April 2021, 9 pages

Peer-Reviewed Journals, Co-Author

[1] Thi Thi Zin, Ye Htet, Yuya Akagi, Hiroki Tamura, Kazuhiro Kondo, Sanae Araki and Etsuo Chosa, "Real-time Action Recognition System for Elderly People Using Stereo Depth Camera", *Sensors*, vol.21, issue.17, September 2021, 23 pages

[2] Thi Thi Zin, Ye Htet, Tunn Cho Lwin and Pyke Tin, "A Markov-Dependent Stochastic Approach to Modeling Lactation Curves in Dairy Cows", *Smart Agriculture Technology*, vol.6, October 2023, 7 pages

[3] Thi Thi Zin, Ye Htet, San Chain Tun and Pyke Tin, "Artificial Intelligence Fusion in Digital Transformation Techniques for Lameness Detection in Dairy Cattle", *International Journal of Biomedical Soft Computing and Human Sciences: the Official Journal of the Biomedical Fuzzy Systems Association*, vol.28, issue.1, March 2023, 8 pages

Peer-Reviewed Conference Proceedings, First Author

[1] Ye Htet, Thi Thi Zin, Pyke Tin, Hiroko Tamura, Kazuhiro Kondo, Shinji Watanabe and Etsuo Chosa, "Analyzing Parameter Patterns in YOLOv5-based Elderly Person Detection Across Variations of Data", *Proc. of the 6th International Workshop on Smart Living with IoT, Cloud and Edge Computing, In Conjunction with the 21st International Conference on Mobile Ad-Hoc and Smart Systems, Seoul, South Korea*, pp. 629-634, September 2024, 6 pages (Presented Online) **[Best Paper Award]**

[2] Ye Htet, Thi Thi Zin, Hiroki Tamura, Kazuhiro Kondo and Etsuo Chosa, "Temporal-Dependent Features Based Inter-Action Transition State Recognition for Eldercare System",

Proc. of the IEEE 13th International Conference on Consumer Electronics-Berlin (ICCE-Berlin), Berlin, Germany, pp. 106-111, September 2023, 6 pages (Presented Online)

[3] Ye Htet, Thi Thi Zin, Hiroki Tamura, Kazuhiro Kondo and Etsuo Chosa, "Action Recognition System for Senior Citizens Using Depth Image Colorization", *Proc. of the IEEE 4th Global Conference on Life Sciences and Technologies (LifeTech), Osaka, Japan*, pp.494-495, March 2022, 2 pages (Presented Online)

Peer-Reviewed Conference Proceedings, Co-author

[1] Thi Thi Zin, Ye Htet, Yuya Akagi, Hiroki Tamura, Kazuhiro Kondo and Sanae Araki, "Elderly Monitoring and Action Recognition System Using Stereo Depth Camera", *Proc. of the IEEE 9th Global Conference on Consumer Electronics (GCCE), Kobe, Japan*, pp.316-317, October 2020, 2 pages (Presented Online)

[2] Thi Thi Zin, Ye Htet, San Chain Tun, Pyke Tin, "Artificial Intelligence Topping on Spectral Analysis for Lameness Detection in Dairy Cattle", *Proc. of the Annual Conference of Biomedical Fuzzy Systems Association, Himeji, Japan*, pp.1-4, December 2022, 4 pages (Presented Online)

[3] Thi Thi Zin, Shin Thant, Ye Htet and Pyke Tin, "Handwritten Characters Segmentation Using Projection Approach", *Proc. of the IEEE 2nd Global Conference on Life Sciences and Technologies (LifeTech), Kyoto, Japan*, pp.107-108, March 2020, 2 pages

Research Note, Oral and Poster Presentations

[1] Ye Htet, Thi Thi Zin, Hiroki Tamura, Kazuhiro Kondo and Etsuo Chosa, "Unobtrusive Elderly Action Recognition with Transitions Using CNN-RNN", *Journal of Signal Processing*, vol.28, issue.6, pp.315-319, November 2024, 5 pages [Research Note]

[2] Ye Htet, Thi Thi Zin, Hiroki Tamura, Kazuhiro Kondo and Etsuo Chosa, "Transition-Aware Elderly Action Recognition: Unveiling Insights with CNN-RNN Integration", *2024 RISP International Workshop on Nonlinear Circuits, Communications and Signal Processing, Honolulu, Hawaii, USA*, February 2024 (Presented Onsite)

[3] Ye Htet, "Real-time Elderly Monitoring and Behavior Analysis Using Stereo Depth Camera at the Elderly Care Center", *2nd Sakura Workshop for Consumer Electronics, Computer, Communication, and Information Technologies, National Chung Hsing University, Taichung, Taiwan*, March 2023 (Presented Onsite)

[4] Ye Htet and Thi Thi Zin, "A Research on Real-time Action Recognition for Elderly People Using Stereo Depth Camera", *15th NOKOH Student Seminar in English, Interdisciplinary Graduate School of Agriculture and Engineering, University of Miyazaki, Miyazaki, Japan,* November 2022 (Presented Onsite) **[Outstanding Presentation Award]**