Yamato Miyatake

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Introduction

I am currently pursuing a Ph.D. at Saitama University under the supervision of Assoc. Prof. **Parinya Punpongsanon**, focusing on the intersection of **human-computer interaction**, **human-food interaction**, **digital fabrication**, **computational design**, and **human-centered AI**. My goal is to **pioneer innovations in digital culinary design**.
Before this, I worked on automated driving systems at **Bosch**, where I honed my skills in **AI-based environment recognition**. In 2022, I earned my **Master of Engineering** degree from Osaka University, specializing in Computer Vision, Robotics, Machine Learning, Signal Processing, and Human-Computer Interaction.
Additionally, my research has explored **haptic presentation** in **Augmented Reality (AR)** and **embedding information using 3D food printing**. These works have been presented at premier conferences, including **IEEE VR** and **ACM UIST**.

Education

Ph.D. Student (three-years course), ***Saitama University, Japan*** `October 2024 - Present`
Division of Mathematics, Electronics and Informatics, Graduate School of Science and Engineering,
Under advisory of *Assoc. Prof. Parinya Punpongsanon*

Master of Engineering, ***Osaka University, Japan*** `March 2022`
Division of Systems Science and Applied Informatics, Graduate School of Engineering Science,
Under advisory of *Prof. Kosuke Sato*, *Assoc. Prof. Daisuke Iwai*, and
Asst. Prof. Parinya Punpongsanon

Bachelor of Engineering, ***Osaka University, Japan*** `March 2020`
Division of Systems Science and Applied Informatics, School of Engineering Science,
Under advisory of *Prof. Kosuke Sato* and *Prof. Daisuke Iwai*

Associate Degree of Engeneering, ***National Institute of Technology, Japan*** `March 2018`
Department of Electrical and Computer Engineering,
Under advisory of *Prof. Yasushi Kami*

Employment

Individual researcher, ***JST, Japan*** `Oct. 2024 - Mar. 2027`
Software Development Engineer, ***Bosch, Germany*** `Apr. 2022 - Dec. 2024`
Research Engineer(Internship), ***SONY, Japan*** `Feb. 2021 (1 month)`
Teaching Assistant, ***Osaka University, Japan*** `Oct. 2020 - Mar. 2020`
Software Engineer(Internship), ***JAXA, Japan*** `Aug. 2017 (1 month)`
Software Engineer(Internship), ***APCAS, Sri Lanka*** `Mar. 2016 (1 month)`

Grants

ACT-X [NextAI-Math-Info], JST, Japan, 45,000 USD + stipend `Oct. 2024 - Mar. 2027`

Publications

JOURNAL ARTICLES

1. Parinya Punpongsanon,`Yamato Miyatake`, Daisuke Iwai, and Kosuke Sato, Food DX Through Unobtrusive Edible Tags using Food 3D Printing (Review article), *Journal of the Imaging Society of Japan*, 2023.

2. `Yamato Miyatake`, Takefumi Hiraki, Daisuke Iwai, and Kosuke Sato, HaptoMapping: Visuo-Haptic Augmented Reality by Embedding User-Imperceptible Haptic Display Control Signals in a Projected Image, *IEEE Transaction on Visualization and Computer Graphics*, 2022.

CONFERENCE PAPERS (full papers)

3. Yamato Miyatake, Parinya Punpongsanon, Daisuke Iwai, and Kosuke Sato, interiqr: Unobtrusive Edible Tags using Food 3D Printing, *The ACM Symposium on User Interface Software and Technology (UIST)*, 2022.

4. Yamato Miyatake, Takefumi Hiraki, Daisuke Iwai, and Kosuke Sato, HaptoMapping: Visuo-Haptic Augmented Reality by Embedding User-Imperceptible Haptic Display Control Signals in a Projected Image, *IEEE Conference on Virtual Reality and 3D User Interfaces (VR)*, 2022.

5. Yamato Miyatake, Takefumi Hiraki, Tomosuke Maeda, Daisuke Iwai, and Kosuke Sato, Visuo-Haptic Display by Embedding Imperceptible Spatial Haptic Information into Projected Images, *In Proceedings of EuroHaptics 2020*, 2020.

CONFERENCE PAPERS (short papers, demos, and posters)

6. Yamato Miyatake, Parinya Punpongsanon, An Exploratory Study on Fabricating of Unobtrusive Edible Tags, *In ACM SIGGRAPH Asia Posters*, 2024.

7. Yamato Miyatake, Parinya Punpongsanon, Daisuke Iwai, and Kosuke Sato, Demonstration of interiqr: Unobtrusive Edible Tags using Food 3D Printing, *The ACM Symposium on User Interface Software and Technology (UIST)*, 2022.

8. Yamato Miyatake, Takefumi Hiraki, Tomosuke Maeda, Daisuke Iwai, and Kosuke Sato, HaptoMapping: Visuo-Haptic AR system using projection-based wearable haptic devices, *In ACM SIGGRAPH Asia 2020 Emerging Technologies*, 2020.

Skills

Software	Python (Pytorch), C++ , Matlab, OpenCV, Unity, React, Fusion360
Hardware	Micro controller, Sensors(Radar, video), 3D Printers