NAIST Project for Interns (NAPI)

Internship Dates: January 13 to 30, 2026

What is NAIST?

The **Nara Institute of Science and Technology (NAIST)** is a school for graduate studies situated in the advanced technology research area of Osaka-Nara-Kyoto.

What is NAPI?

The NAIST Project for Interns (NAPI) offers yearly internship opportunities for students coming from the School of Science and Engineering (SOSE) of the Ateneo de Manila University (ADMU) in the Philippines.

Location

Osaka

Kyoto

What's Keihanna?

The Keihanna Science City (officially known as the Kansai Science City) is nestled in the green Keihanna hills stretching over Kyoto,Osaka, and Nara prefectures in western Japan.

Number of Faculty

As of May 1, 2025

Professors	Associate Professors	Assistant Professors	Research Associates	Total
56	47	98	2	203

Current Number of Students

As of May 1, 2025

Graduate School	Current Number of Students								Percentage of Female Students
	Master's Program			Doctoral Program				Total	
	1st Year	2nd Year	Total	1st Year	2nd Year	3rd Year	Total		
Science and Technology	397 (110)	381 (107)	778 (217)	131 (35)	132 (48)	162 (38)	425 (121)	1,203 (338)	28.1%

As of May 1, 2025

	Master's Program	Doctoral Program	Research Students	Total
Pakistan	2 (1)			2 (1)
India	2	2 (1)		4 (1)
Nepal	1 (1)			1 (1)
Bangladesh	2	10 (3)		12 (3)
Sri Lanka	1 (1)	1		2 (1)
Myanmar		2 (2)		2 (2)
Thailand	9 (5)	8 (5)	3	20 (10)
Malaysia	4 (3)	15 (8)	2 (1)	21 (12)
Indonesia	9 (3)	48 (26)	3 (1)	60 (30)
The Philippines	3 (1)	25 (5)	1 (1)	29 (7)
South Korea	1	2	1	4

Total	344 (123)

29% International students!

NAIST GSK

About the Recycling Market リサイクルマーケットについて

Introduction　紹介

We're a student-led group that organizes events and activities to support the student community—both international and Japanese—and promote sustainability. Want to meet new people, gain experience, and make NAIST even more fun and welcoming? Join us!

🎉 What We Do:

★ Welcoming & cultural events

★ Sports Day

★ Halloween Party

★ Social meetups

★ And most importantly the Recycling Market!

GSKは、国際・日本人学生を問わず、NAISTの学生コミュニティをサポートし、サステナブルな活動を行う学生団体です。新しい人と出会いたい、イベント運営に関わってみたい、学生生活をもっと楽しくしたい——

そんなあなたにぴったりなのが GSK（NAIST Global Student Network） です！参加しませんか？


The dancers have to work together and dance in sync in order to avoid getting caught in between the bamboo.
This dance requires good stamina, energy, and, of course, a lot of trust.


Meatfoods


無限の可能性、ここが最先端　-Outgrow your limits-
令和7年度 奈良先端科学技術大学院大学 学位記授与式
Commencement 2025
Nara Institute of Science and Technology
NAIST

Facts & History

Careers after Graduation

Graduate School of Science and Technology

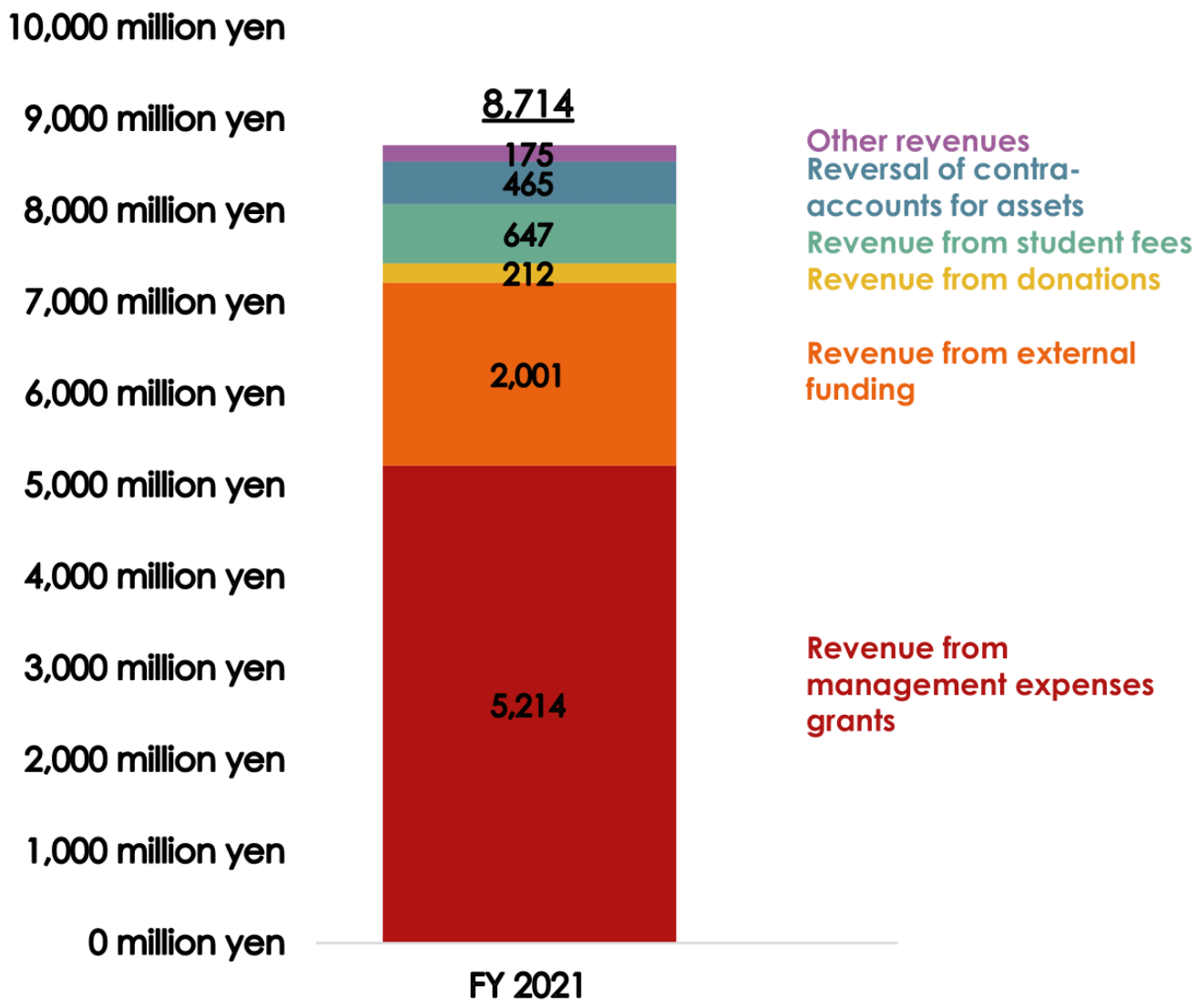
332 Graduates after Completion of Master's Program in 2021:

- Entered Doctoral Program: 61
- Entered the workforce: 260
- Return to sponsoring company / organization: 2
- Entrepreneur: 0
- Other: 9

88 Graduates after Completion of Doctoral Program in 2021:

- Entered the workforce: 36
- Return to sponsoring company / organization: 18
- Post-Doctoral Fellow: 24
- Entrepreneur: 2
- Other: 8

Summary of revenue



High Allocation of Educational Research Funding

Nara Institute of Science and Technology (NAIST)

(University Functions to be Enhanced: 1. Boost academic excellence in specific areas of the university's strength, 2. Generate innovation that can help solve global issues and advance societal reform.)

Participators: Advanced Telecommunications Research Institute International (ATR) , National Institute of Informatics (NII) , National Institute of Information and Communications Technology (NICT) National Institute of Advanced Industrial Science and Technology (AIST) , National Institute for Materials Science (NIMS) , Institute of Science Tokyo (Science Tokyo) , Nara Medical University , University of California, Davis (UCD) Eidgenössische Technische Hochschule Zürich(ETH) , University of Strasbourg (U. Strasbourg) , University of Bonn (U. Bonn) , Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU-EN) , Universitas Gadjah Mada , IPB University Universitas Indonesia , Badan Riset dan Inovasi Nasional , Universiti Malaya , Universiti Sains Malaysia , Universiti Tunku Abdul Rahman , Kasetsart University , Chulalongkorn University , Vietnam National University University of Science , University of Science and Technology of Hanoi , Vietnam Academy of Science and Technology , Institute of Biotechnology , Vietnam Academy of Science and Technology, Institute of Materials Science University of Philippine, Diliman , Ateneo de Manila University

Summary

Vision of the University in 10 years

A graduate school university that leads reform of population-declining societies by developing an AI-assisted autonomous research enhancement and social implementation system composed of three advanced science fields (information, bio, and materials sciences), and by cooperating with ASEAN countries in admitting and providing doctoral human resources.

Strategy 1: Strategic recruitment and development of human resources from Southeast Asian countries

- Systematic recruitment of diverse research talents with high potentials
- Human resource development through internationalized education in collaboration with overseas collaborators and research institutions
- Strengthen relationships by providing human resources to industry, government, and academia in both Southeast Asian countries and Japan.

Strategy 2: Development and sharing of the system for Automated Research Workflow and Industrial Translation (ARWIT)

- Autonomous bioseeds creation using data sharing and AI technology
- Autonomous material synthesis utilizing materials informatics
- Social implementation through data sharing with companies via advanced information security technologies

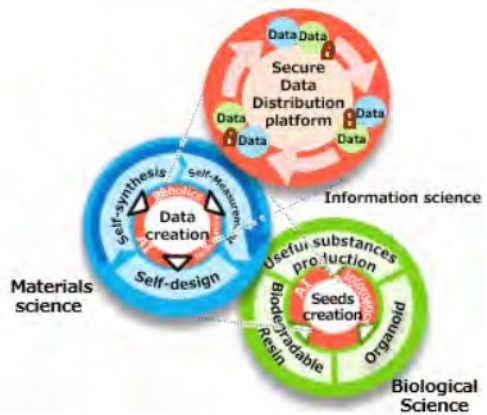
Capabilities to be enhanced in this project

- Ability to succeed in the international competition for talent
- Social implementation and monetization of research achievements

NAIST-ARWIT System

(Automated Research Workflow and Industrial Translation)

An automated research and social implementation system integrating the fields of biological science, materials science, and information science



Expected impact of the strategies

- Securing and bringing research manpower into society to cope with inevitable population decline
- Strengthening partnerships with Southeast Asian countries
- Establishing a system to autonomously enhance research capacity utilizing AI and automation technologies
- Stabilizing university management through end-use-driven research reinforcement and data monetization

Advantages of NAIST

- Volume of research experts focusing on the three areas of advanced science essential for a sustainable society
- Track record of collaborating with top universities in Southeast Asia in admitting international students and training them to become research professionals
- A flexible appointment and training system for early career scientists
- Efficient and rapid reform capabilities unique to a small university

University Functions to be Enhanced

① Boost academic excellence in specific areas of the university's strengths
② Generate innovation that can help solve global issues and advance societal reform

Search NAPI 2026

https://napi-naist.github.io

What NAIST offers?

- ✓ Focused graduate school environment
- ✓ Top quality education and research
- ✓ State of the art research facilities
- ✓ Extensive support for students/researchers
- ✓ Expanding network for global collaboration
- ✓ Growing global campus community

NAIST Graduate School of Science and Technology

Information Science

- ✓ Internship period: January 13 – 30, 2026
- ✓ Full Financial support: Flight, Accommodation, etc.
- ✓ Accept 6 interns

Computer Science and Artificial Intelligence

Ubiquitous Computing Systems

- Implementing Small Language Models on Edge Devices for Smart IoT

Large-Scale Systems Management

- Privacy-preserving Smart Contract Development with ZoKrates

Software Design and Analysis

- Studying the Efficiency of Agentic AI Programming Tools and Their Impact on Software Quality
- Maintenance and Security of Software Ecosystems

Information Security Engineering

- Side-channel Analysis on Cryptographic Module

Applied Artificial Intelligence and Robotics

Human-AI Interaction

- Building an Emotion-Aware System for Tagalog Speech
- Exploring Empathic Interactions Between Humans and Robots

Social Computing

- Multilingual Symptom Detection on Social Media
- City Image Extraction from Social Media Text and Street Images

Interactive Media Design

- Adaptive Redirected-Hand Support for VR Upper-Limb Rehabilitation

Human Robotics

- Development of a Soft Sensor for Soft Robotic Grippers
- Development of a Path Planning Method based on ANCF to Minimize Tether Tension for Underwater Vehicles

Mathematical Informatics

- Latent Trajectory Modeling and Language-Based Feedback for Human Motion Correction
- Exploring Identifiable Representations in Complex Data by Extending Nonlinear ICA
- On Expressive Message-Passing Architectures for Financial Network Anomaly Detection

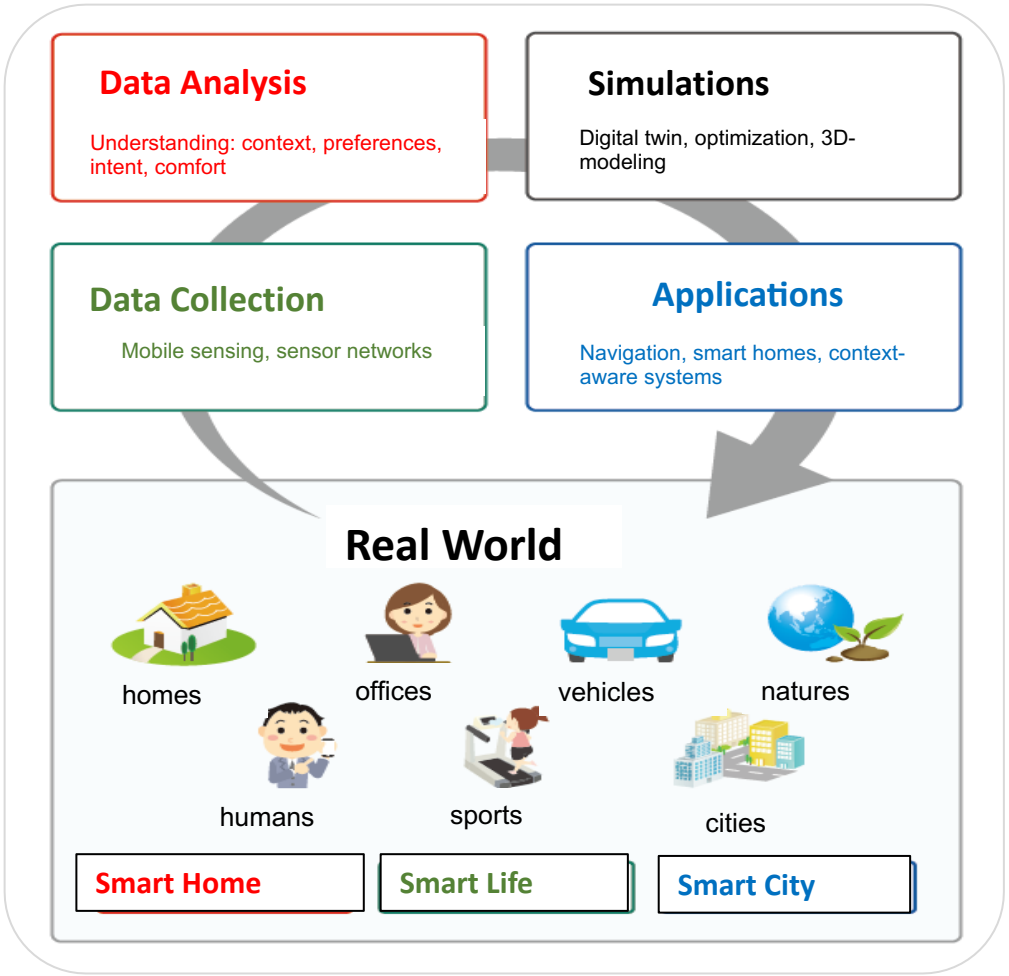
Biomedical Imaging Intelligence

- Predicting 3D from 2D Image: Intelligent X-ray Image Analysis

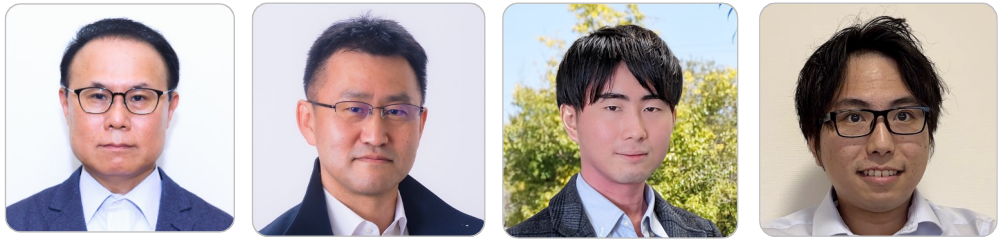
Ubiquitous Computing Systems Lab

NAIST UBI

Goal: Realizing a Society 5.0 through AIoT and Digital Twins



4 Faculty Members + 41 Students



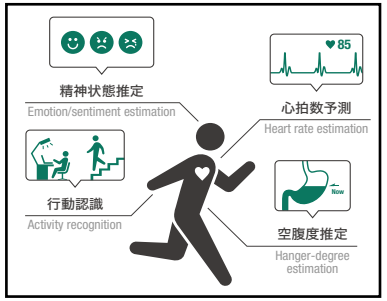
Professor
Keiichi Yasumoto

Assoc. Prof.
Hirohiko Suwa

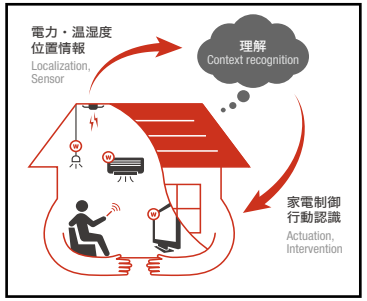
Assist. Prof.
Tomokazu Matsui

Assist. Prof.
Wataru Sasaki

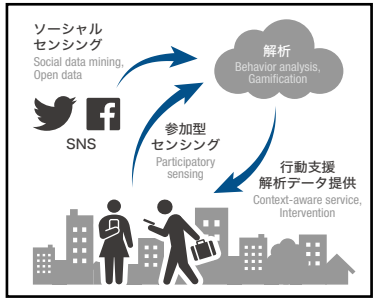
Application Areas



Smart Life



Smart Home



Smart City

Internship Theme: Implementing Small Language Models on Edge Devices for AIoT (Smart IoT)

Goal

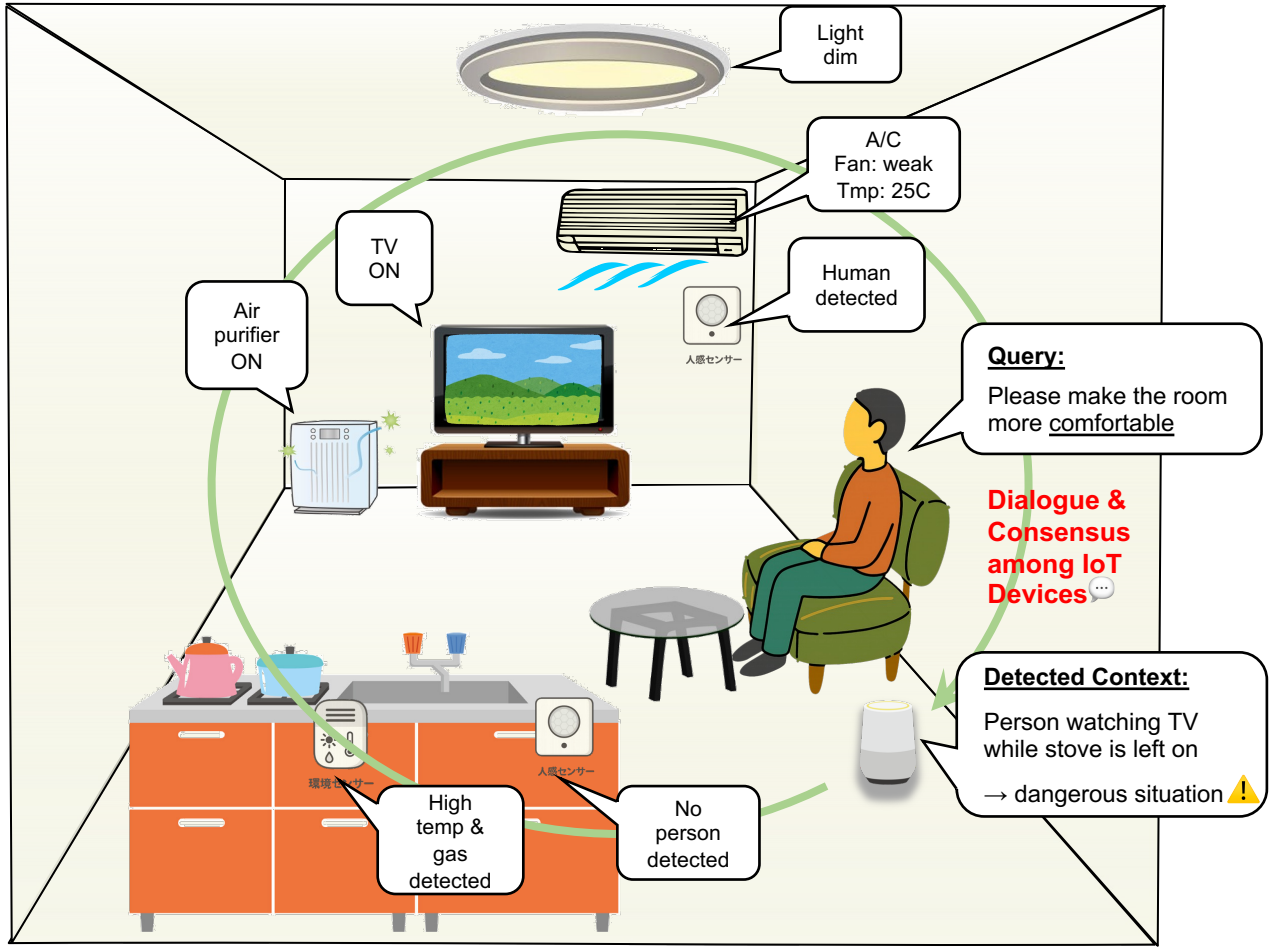
- IoT devices communicate in natural language
- Context recognition via device-to-device discussions (explainable to humans)
- Device interaction and control in unconstrained natural language → more intuitive and flexible

Approach

- Embed Small Language Models (SLMs) in IoT devices
- Fine-tune SLMs with knowledge distillation

Experiment & Deployment

- NAIST Smart Home as testbed



NARA INSTITUTE OF SCIENCE AND TECHNOLOGY
- Outgrow your limits -

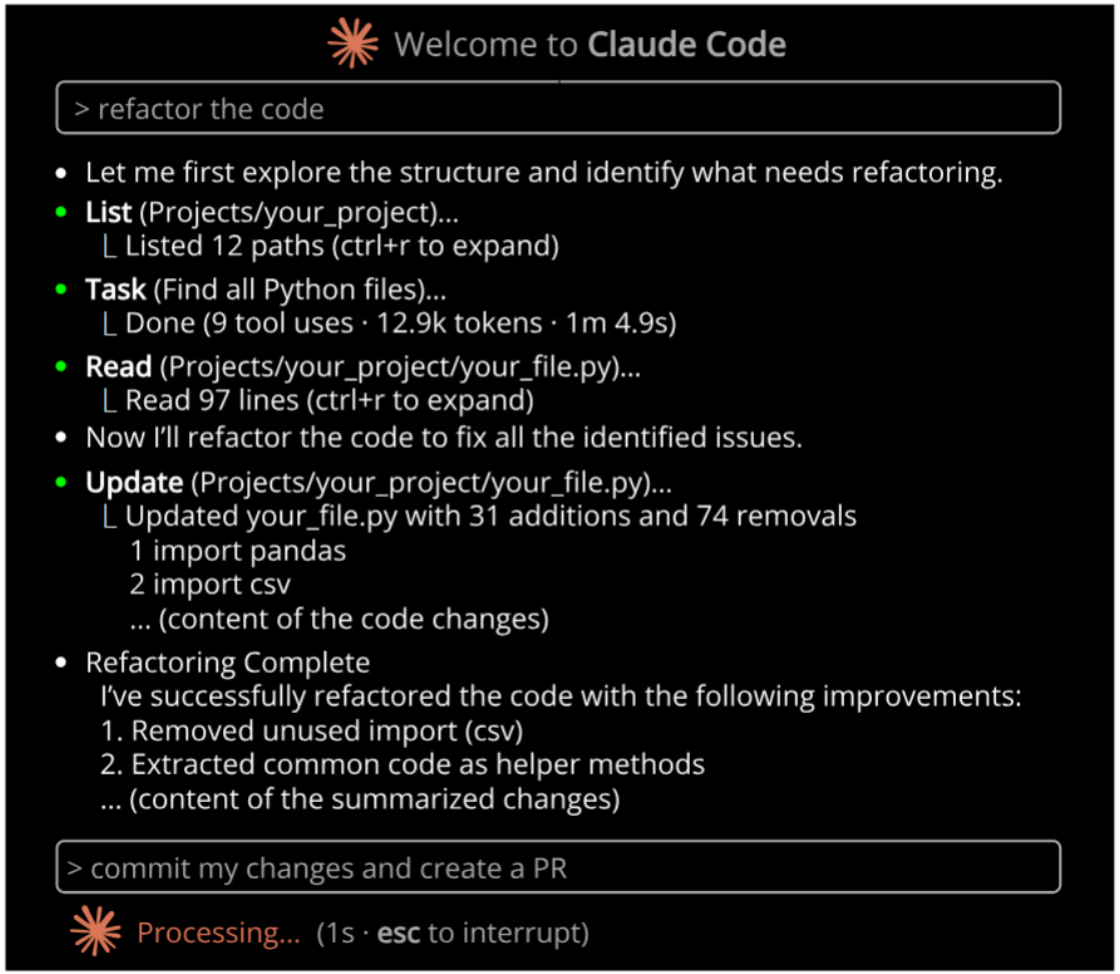
Privacy-preserving Smart Contract Development with Zero-Knowledge Proof

Christopher Wiraatmaja, D.Sc

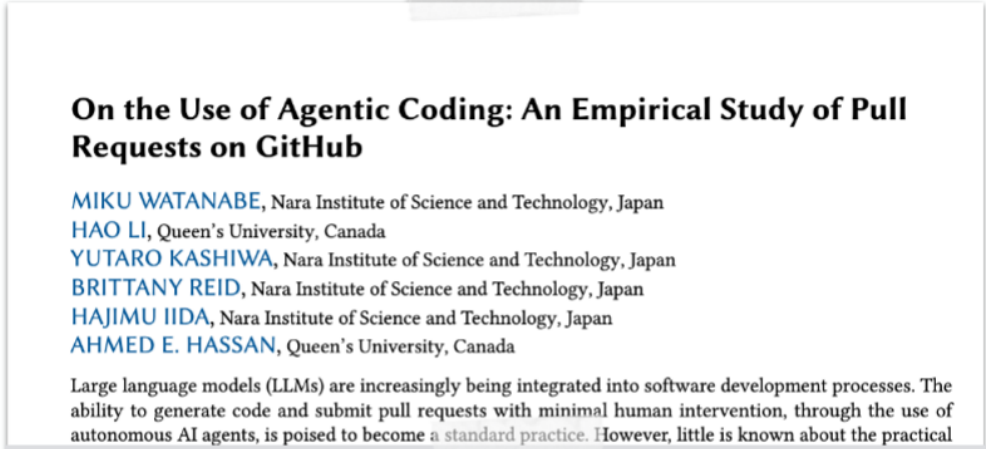
Assistant Professor

Large-scale Systems Management Laboratory
Nara Institute of Science and Technology

Agentic coding tools autonomously
plan, **implement**, **execute**, **test**, and **commit** with minimal human intervention



Example Outputs of Agentic Coding Tools



On the Use of Agentic Coding: An Empirical Study of Pull Requests on GitHub

MIKU WATANABE, Nara Institute of Science and Technology, Japan
HAO LI, Queen's University, Canada
YUTARO KASHIWA, Nara Institute of Science and Technology, Japan
BRITTANY REID, Nara Institute of Science and Technology, Japan
HAJIMU IIDA, Nara Institute of Science and Technology, Japan
AHMED E. HASSAN, Queen's University, Canada

Large language models (LLMs) are increasingly being integrated into software development processes. The ability to generate code and submit pull requests with minimal human intervention, through the use of autonomous AI agents, is poised to become a standard practice. However, little is known about the practical

Our previous study shows that
Agentic Coding Tools perform tasks similar to those of developers
(e.g., Implementation, refactoring)

But, is the quality of the generated code good?

Software Design and Analysis Lab SD

Most software is built using other software, but these chains of dependency can be complicated. While software libraries like NPM packages can **save time**, they can also **introduce vulnerabilities** or **become outdated**.

Rethinking Reuse in Dependency Supply Chains:
Initial Analysis of NPM packages at the End of the Chain

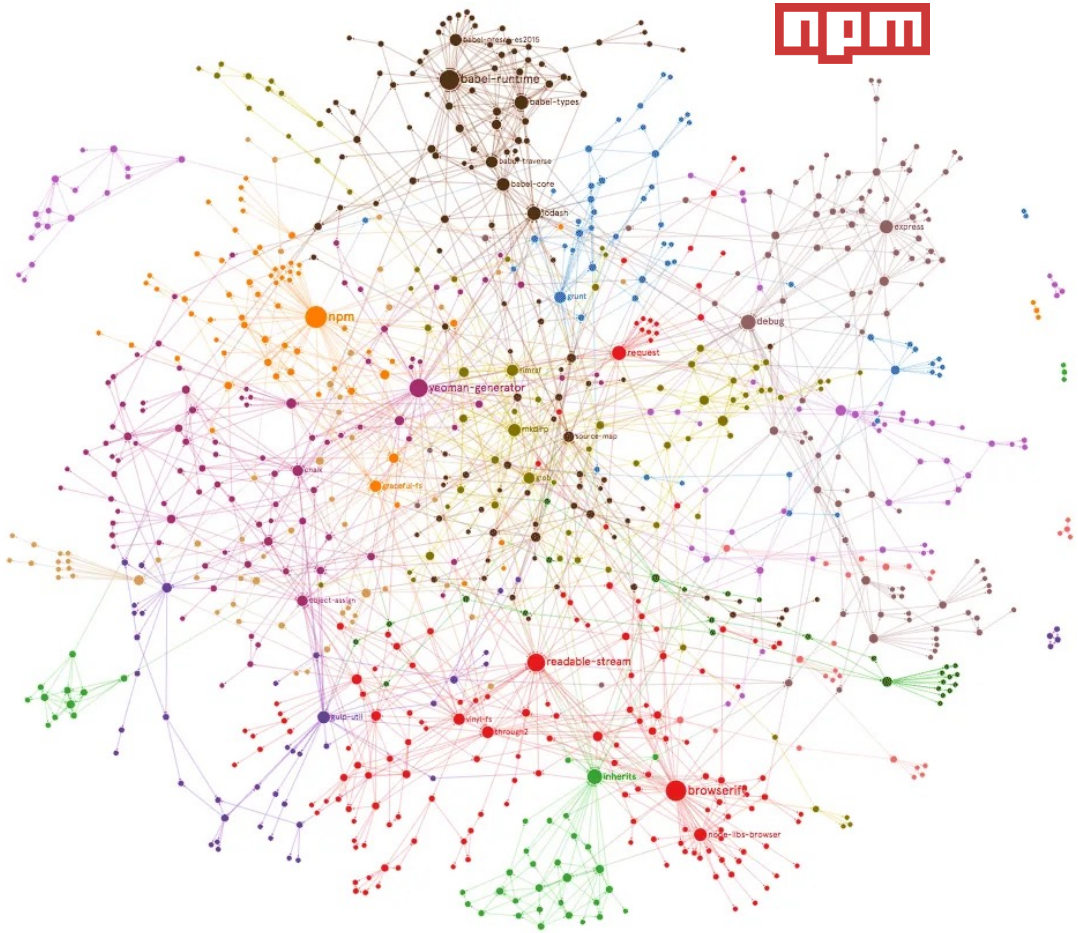
BRITTANY REID, Nara Institute of Science and Technology, Japan
RAULA GAIKOVINA KULA, Osaka University, Japan

The success of modern software development can be largely attributed to the concept of code reuse, such as the ability to reuse existing functionality via third-party package dependencies, evident within massive package networks like NPM, PyPI and Maven. For a long time, the dominant philosophy has been to *'reuse as much as possible, without thought for what is being depended upon'*, resulting in the formation of large dependency supply chains that spread throughout entire software ecosystems. Such heavy reliance on third-party packages has eventually brought forward resilience and maintenance concerns, such as security attacks and outdated dependencies.

In this vision paper, we investigate packages that challenge the typical concepts of reuse–that is, packages with no dependencies themselves that bear the responsibility of being at the end of the dependency supply chain. By avoiding dependencies, these packages at the end of the chain may also avoid the associated maintenance and resilience risks typically beyond their control. For our initial analysis, we look at a sample of heavily-depended upon NPM packages, and identify that such end-of-chain packages make up a

We identified that there exist **unmaintained libraries** in the supply chain of the **most popular packages**.

How can we better **maintain** and **secure** the supply chain?



Top 100 depended upon npm packages and their dependencies

Side-channel analysis on cryptographic module

Information Security Engineering Lab.

We conduct research on methods to ensure hardware safety, which is the bedrock of system information security. We also conduct research to ensure the security of the entire system, including the upper layers.

Research key words:

Side-Channel Analysis, Fault Analysis, EM Information Leakage (TEMPEST), Hardware Trojan, Sensor Security for IoT, etc.

Faculty

Yuichi Hayashi
(Professor)

Daisuke Fujimoto
(Associate Professor)

Shugo Kaji
(Assistant Professor)

Young Woo Kim
(Affiliate Assistant Professor)

Masahiro Kinugawa
(Guest Researcher)

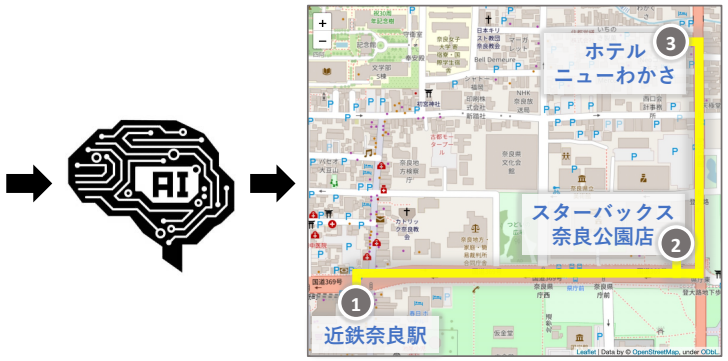
Human-AI Interaction Lab

https://hai-lab.naist.jp/

Advancing human-AI collaboration through speech, text, and image interactions, focusing on language and paralanguage to enhance human potential

Geospatial & Language AI

午前８時**近鉄奈良駅**到着。
ホテルニューわかさに
９時チェックイン予定。
時間に余裕があったので、
途中の**スタバ**で一服。
30分過ごしてから**店**を出て、
ホテルにチェックイン。



LT4All

Language Technologies for All

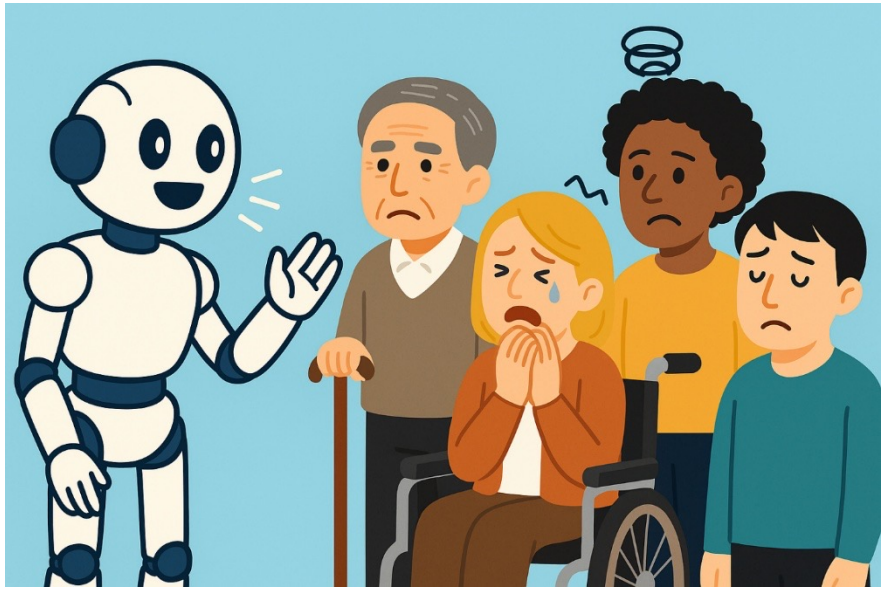
Connecting billions through language technologies

Avatar-based speech recognition & synthesis

Teleoperated robot communication

A vibrant multinational team (66% of faculty and 55% of students are international)

Internship Theme 1:
Building an Emotion-Aware System for Tagalog Speech

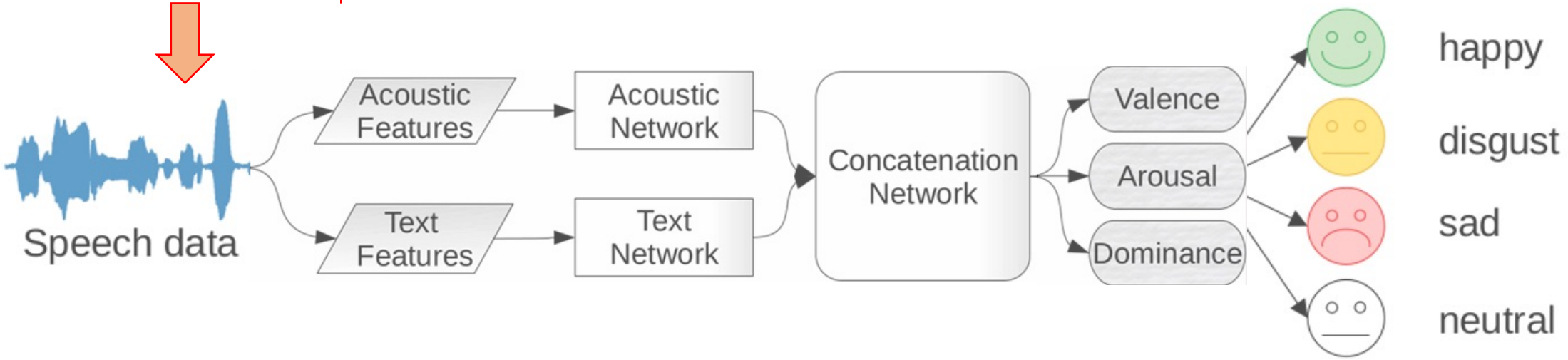


Developing AI that understands feelings in Tagalog conversations —

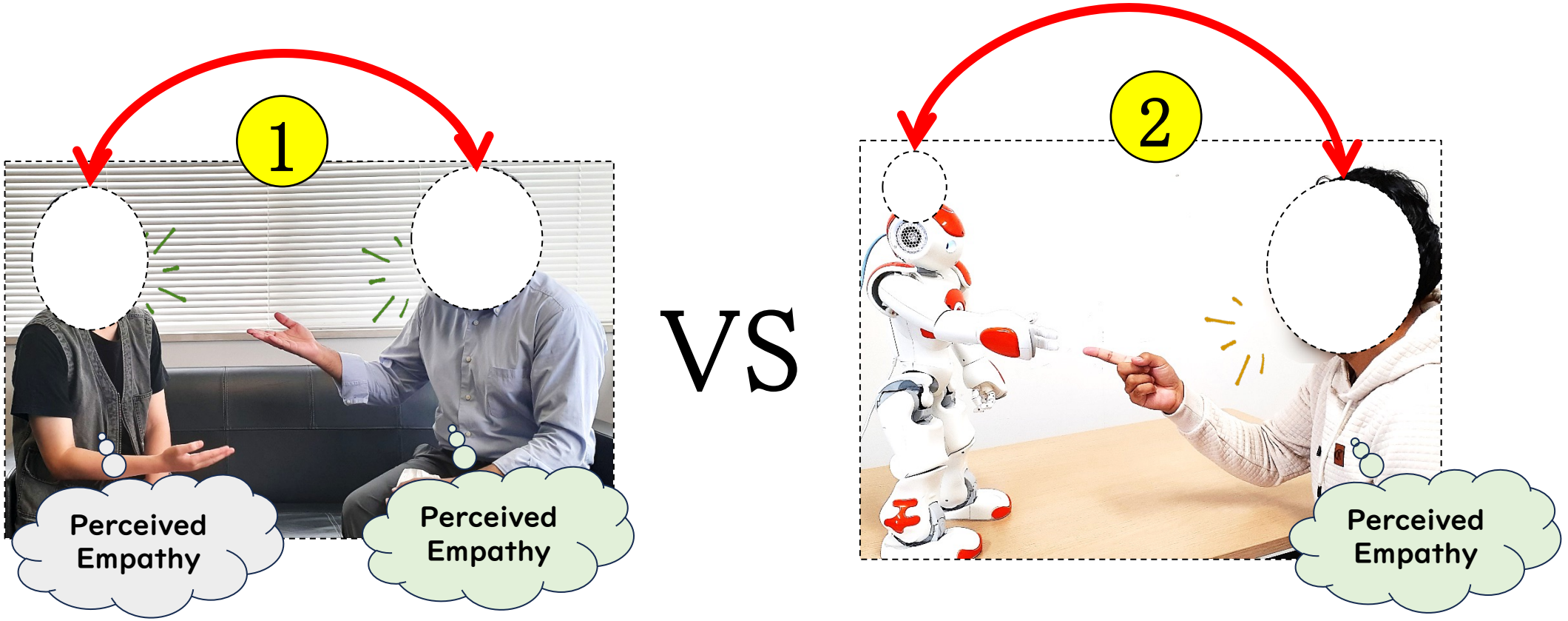
through:

- **Verbal / linguistic cues** → *what is said*
- **Non-verbal / paralinguistic cues** → *how it is said*

in multimodal learning



Internship Theme 2:
Exploring Empathic Interactions Between Humans and Robots



Exploring three types of empathy in human–robot interactions to build socially aware robots

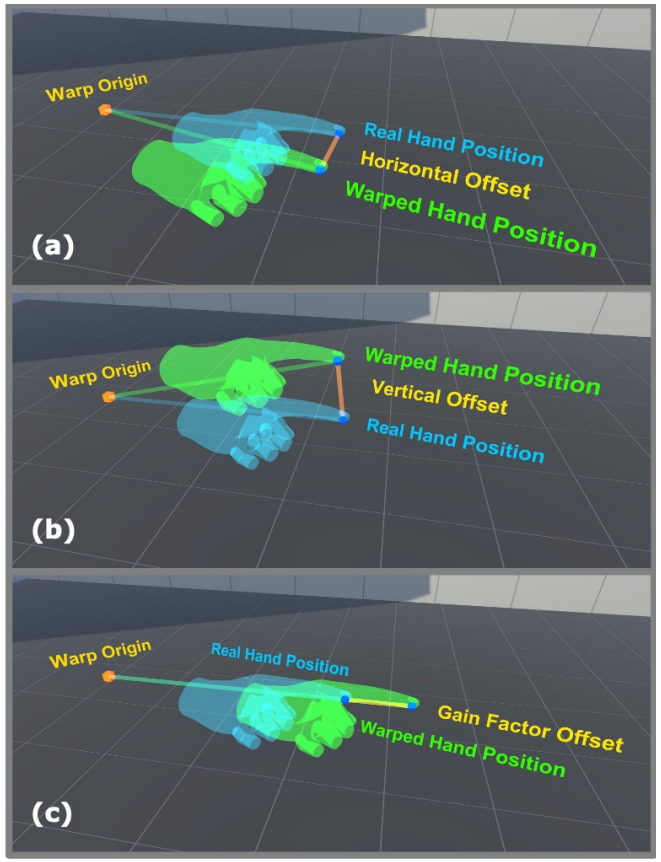
- **Cognitive Empathy** → Robot recognizes human emotions & intentions
- **Emotional Empathy** → Robot mirrors user's emotions
- **Compassionate Empathy** → Robot responds with supportive actions

ヒト・社会・医療　と　ことば
human/society/medical and text

ソーシャル・コンピューティング研究室
Social Computing Lab

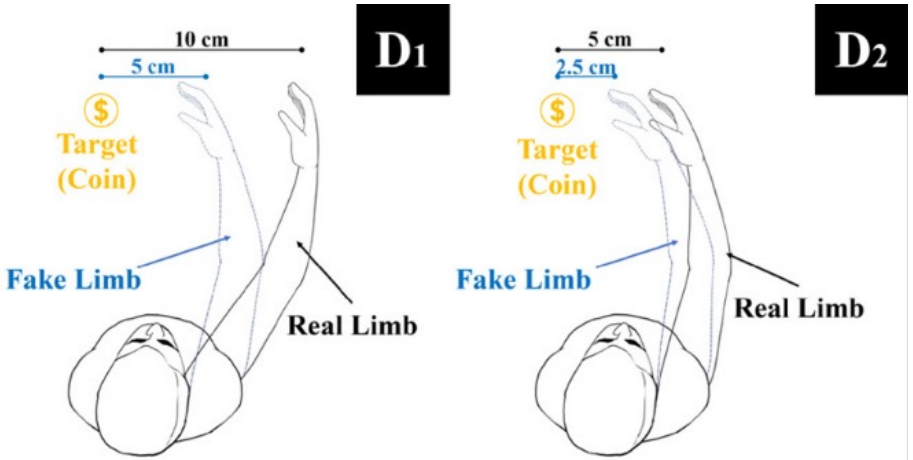
Nara Institute of Science and Technology
SOCIOCOM
Social Computing Laboratory since 2015

Adaptive Redirected-Hand Support for VR Upper-Limb Rehabilitation



Zenner & Krüger, IEEE VR 2019

Hand Redirection:
without the user noticing, visually present a **virtual hand** in VR at a **position different** from the **actual hand**



Liao et al., IEEE TVCG 2025

Kanaya et al., VRSJ 2023

interactive
Media Design Lab

VAMR
Virtual, Augmented, and Mixed Reality Laboratory

Isidro Butaslac
Asst. Prof.

Adaptive Redirected-Hand Support for VR Upper-Limb Rehabilitation

RQ1:
In game-based VR rehabilitation, what is the acceptable range of hand **redirection gain and offset** that patients can tolerate **without noticing**?

RQ2:
Compared with no redirection, does applying hand redirection **improve task accomplishment and motivation** in patients without degrading body ownership, sense of agency, or naturalness of control?

interactive
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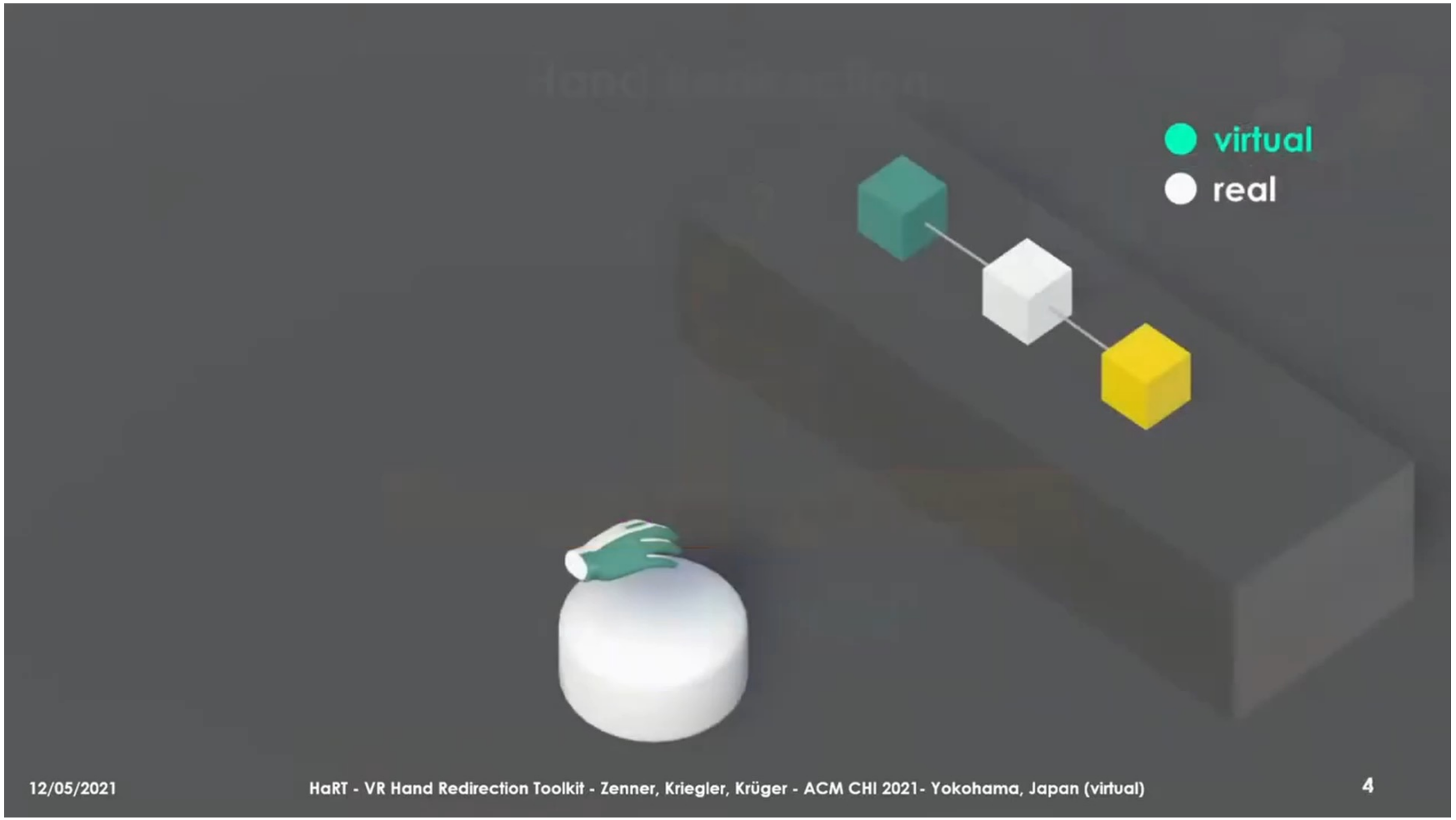
Adaptive Redirected-Hand Support for VR Upper-Limb Rehabilitation



The Virtual Reality Hand Redirection Toolkit (HaRT)

Zenner et al., CHI 2021

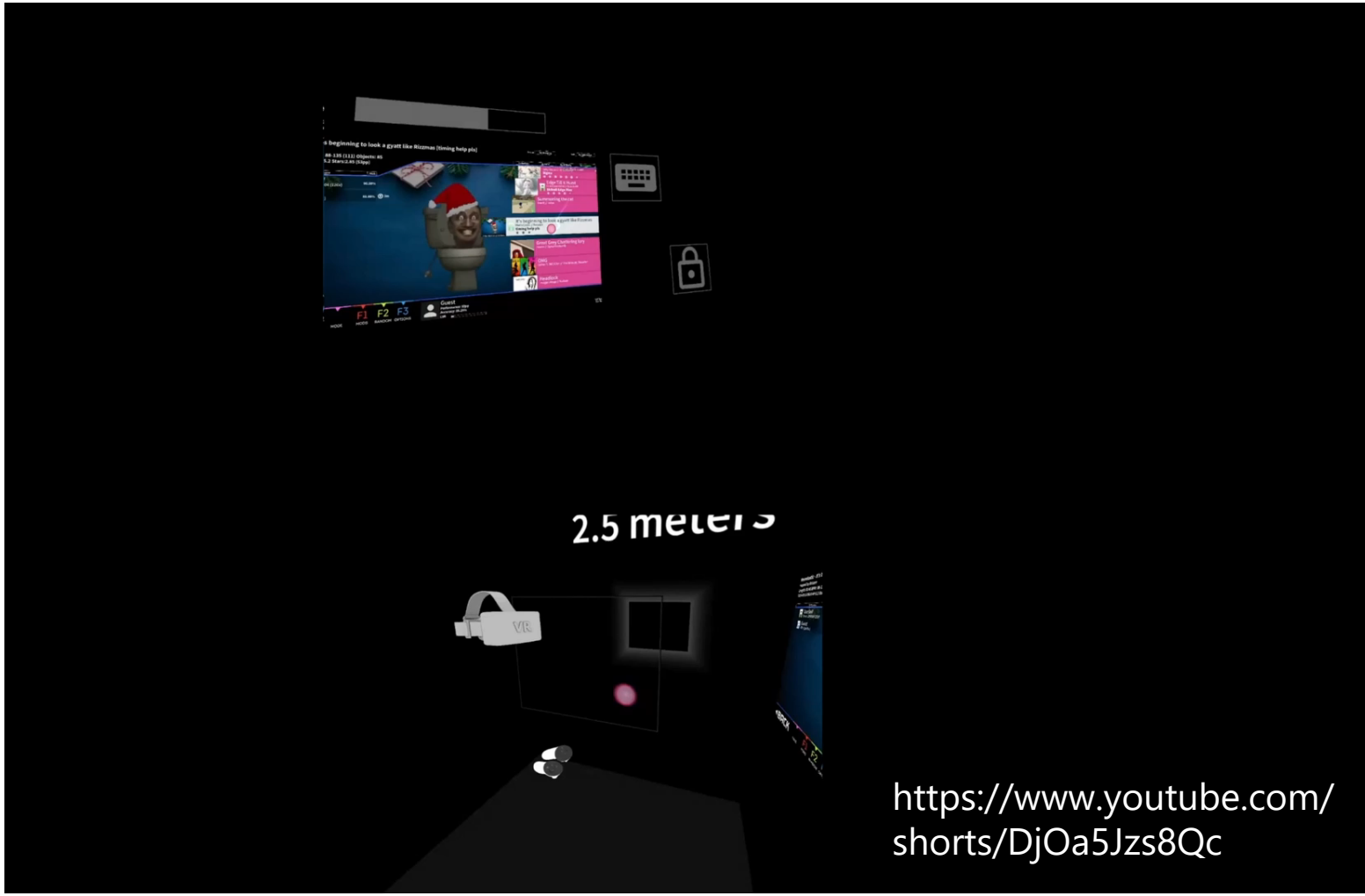
interactive Media Design Lab

VAMR Virtual, Augmented, and Mixed Reality Laboratory

Isidro Butaslac
Asst. Prof.

Adaptive Redirected-Hand Support for VR Upper-Limb Rehabilitation

Image © Meta



https://www.youtube.com/shorts/DjOa5Jzs8Qc

interactive
Media Design Lab

VAMR
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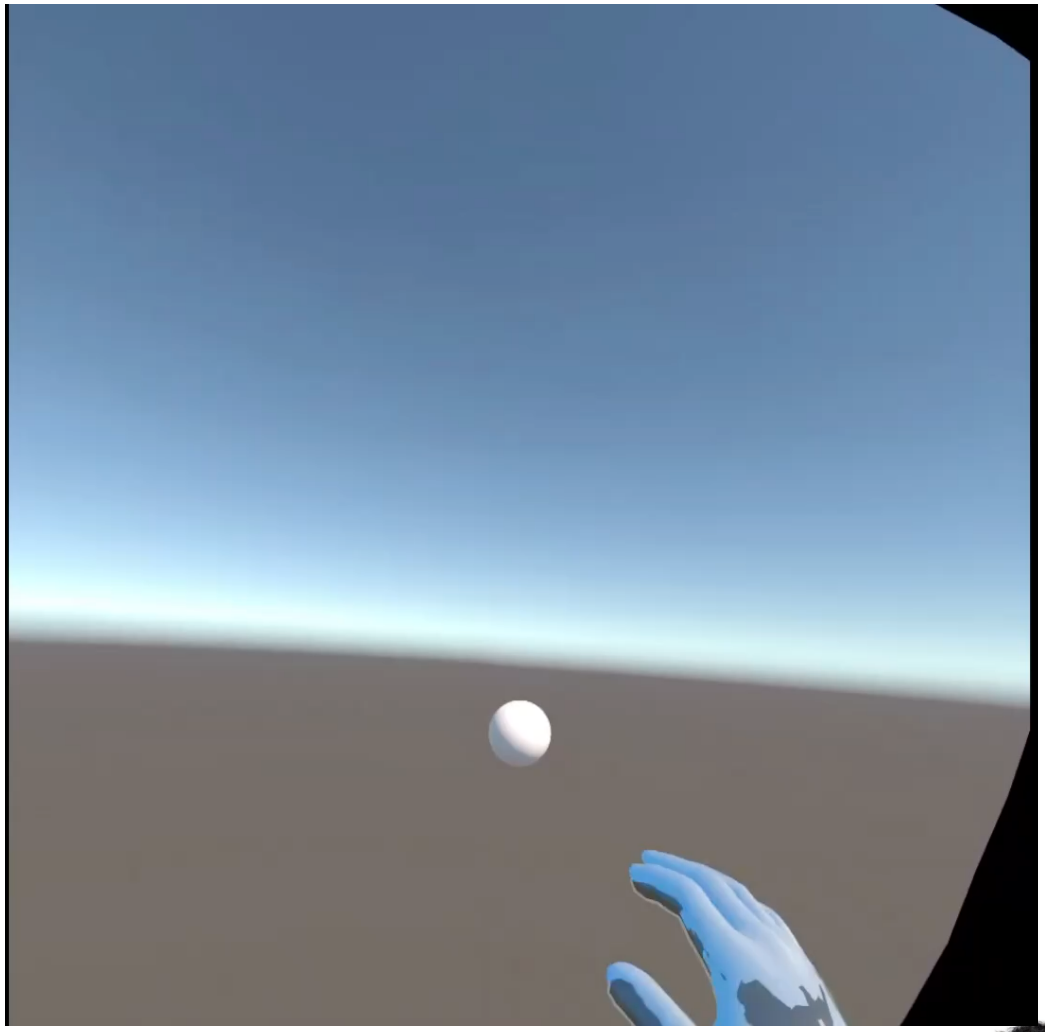
Isidro Butaslac
Asst. Prof.

Adaptive Redirected-Hand Support for VR Upper-Limb Rehabilitation

Image © Meta



interactive
Media Design Lab

VAMR
Virtual, Augmented, and Mixed Reality Laboratory

Isidro Butaslac
Asst. Prof.

Human Robotics Laboratory

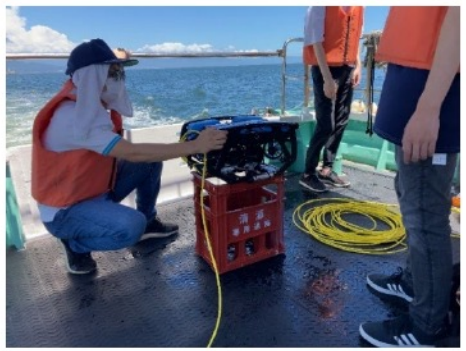
Understanding motor intelligence of humans and machines and applying it to control theory & human-robot interactions

【Robotics】Manipulation, Field robotics, Soft-robotics, nonlinear control theory

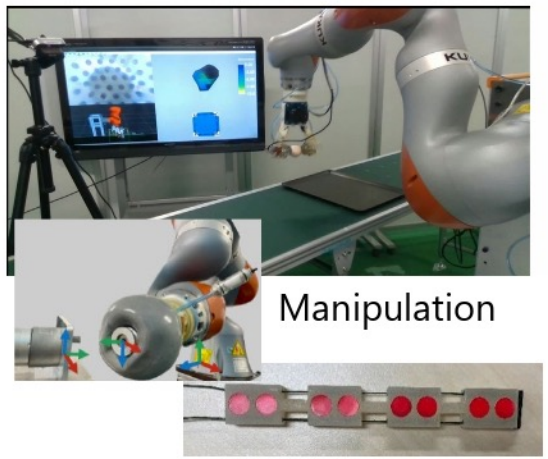
【Human modeling】 Modeling human motor control, motion perception, and motion sickness

【Human machine systems】Human-robot interaction, teleoperated robots, VR/AR applications

【Mobility vehicles】Automated vehicles, ride comfort control, driver assistance systems



Underwater robots



Manipulation

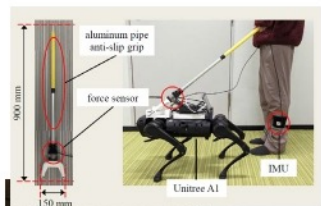
Soft robotics: (hardware, modeling, and control theory)

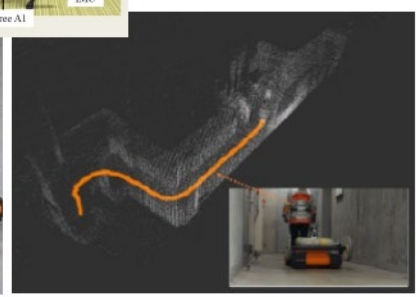
Collaborative robots

Driving simulators

Comfort in AVs
(ride comfort/ Trust)

PoC experiment with AVs





Rescue robots

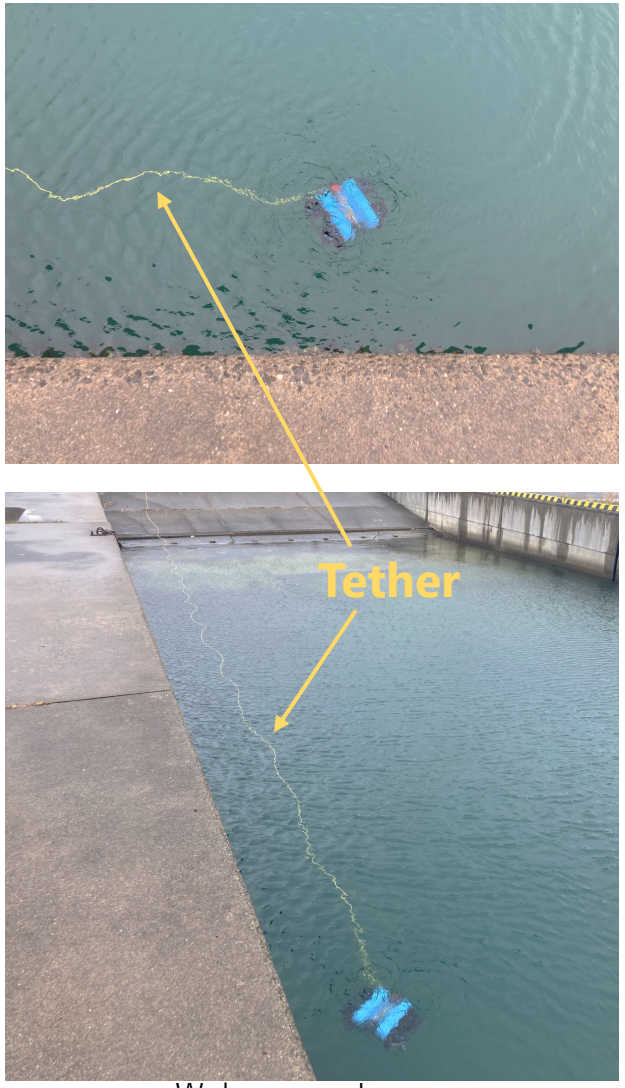
Micro-gravity experiment (space sickness)

Prosthesis

Development of a **Path Planning Method** Based on **ANCF** to **Minimize Tether Tension** for Underwater Vehicles

Remotely Operated underwater Vehicle (ROV) has a tether cable which enables:

- High-reliability communication
- Power supply
- Emergency retrieval



Wakayama, Japan

An issue on ROV operation

Tether cable imposes tension/drag on the ROV body

The tension is difficult to measure accurately in operation

What will happen?

Deviates significantly from the target coordinates

Human Robotics

Nara Institute of Science and Technology NAIST

Development of a **Path Planning Method** Based on **ANCF** to **Minimize Tether Tension** for Underwater Vehicles

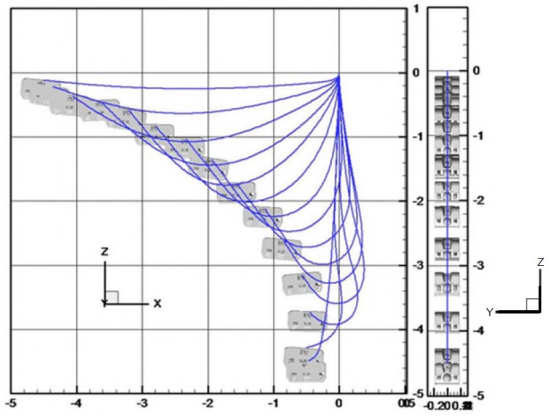
Purpose

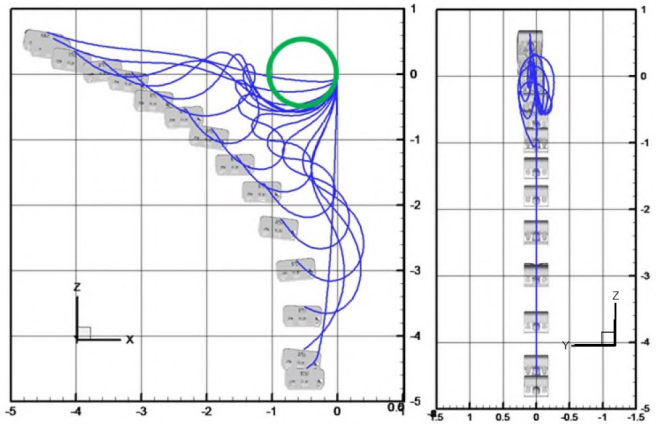
Find a path that minimizes tether tension on the ROV during travel from A to B

Method

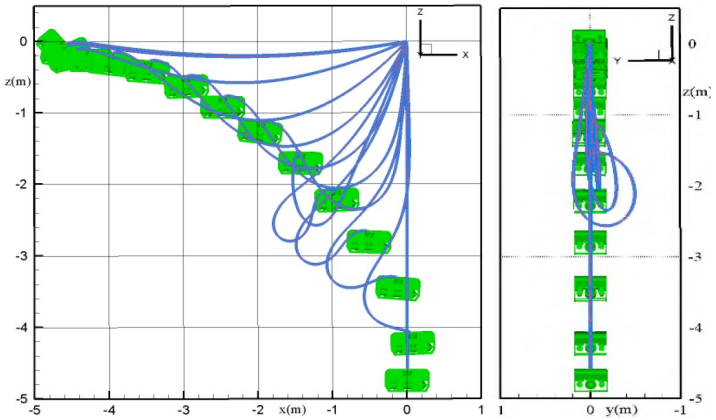
Applying a model that estimates tether motion and its influence on ROV using Absolute Nodal Coordinate Formulation (ANCF) to path planning

H. Suzuki et al., 2018 Thant Z. H. et al., 2022





12DoF ANCF (bending, stretching)



24DoF ANCF (+ twisting)

Human Robotics

Nara Institute of Science and Technology NAIST

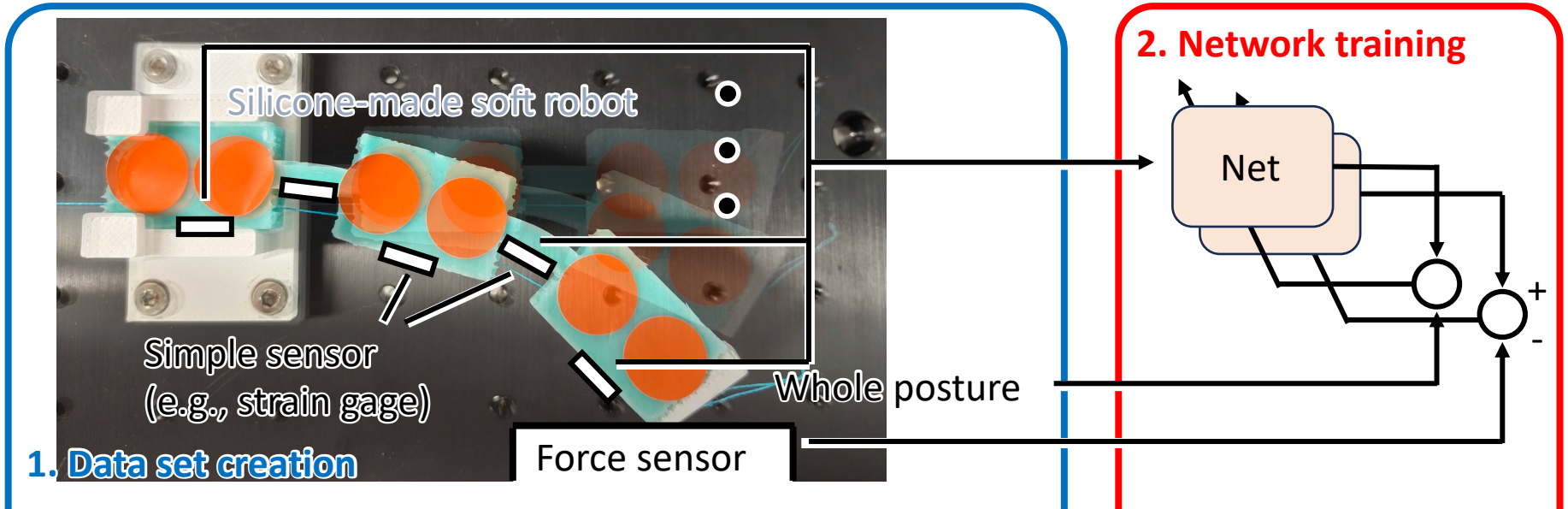
Development of a soft sensor for soft robotic grippers

Research Question

Is it possible to extract rich information, such as contact force and whole deformation, from only simple sensors with machine learning?

Contents in NAPI

1. **Data set creation**: with an experiment in which a soft robot contacts the wall
   experiment design / image processing / data filtering
2. **Network training**: investigating its structure, applicability, and limitations
   machine learning programming / validation



On Expressive Message-Passing Architectures for Financial Network Anomaly Detection

Brian Godwin Lim

Mathematical Informatics Laboratory
Division of Information Science
Graduate School of Science and Technology
Nara Institute of Science and Technology

October 1, 2025

Biomedical Imaging Intelligence Laboratory

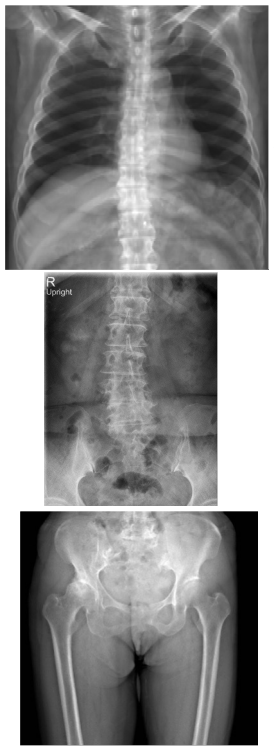
[Internship Theme]

Predicting 3D from 2D image: Intelligent X-ray image analysis

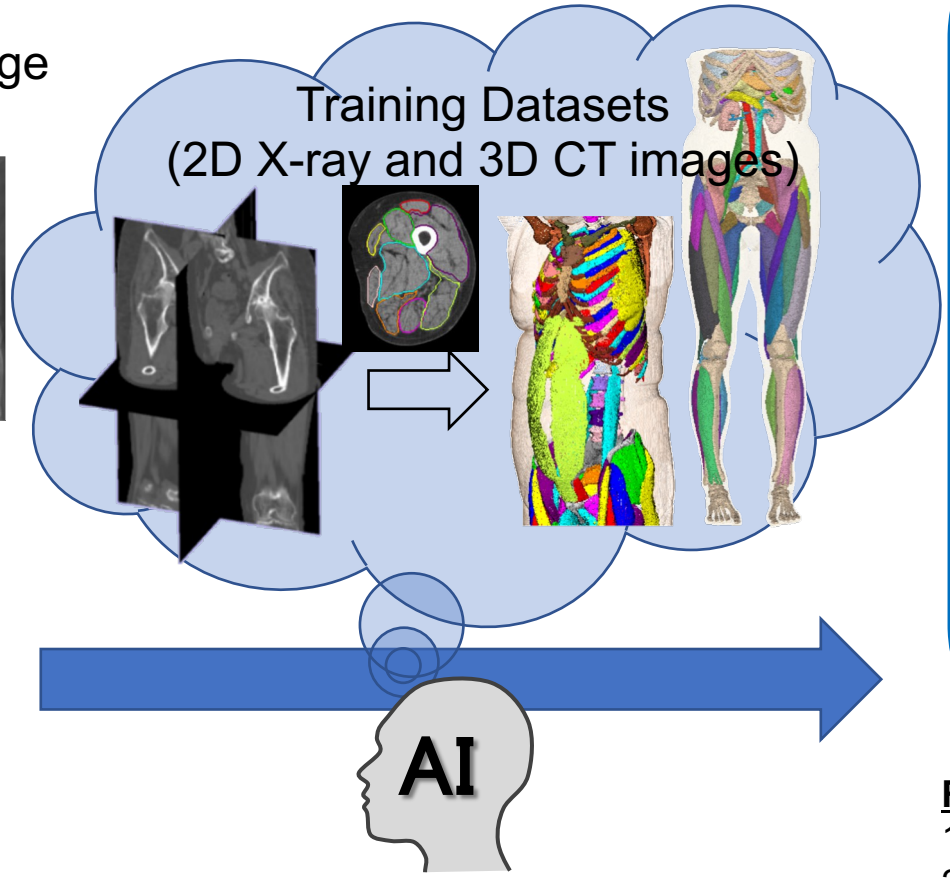
Main advisor
Yoshito Otake

This internship provides an opportunity to learn the cutting-edge of medical image analysis, specifically focusing on extracting 3D information from a 2D X-ray image.

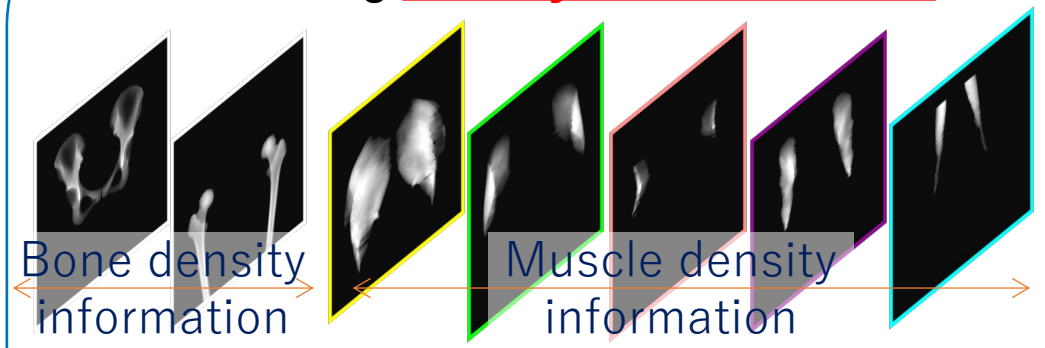
2D X-ray Image
(Input)



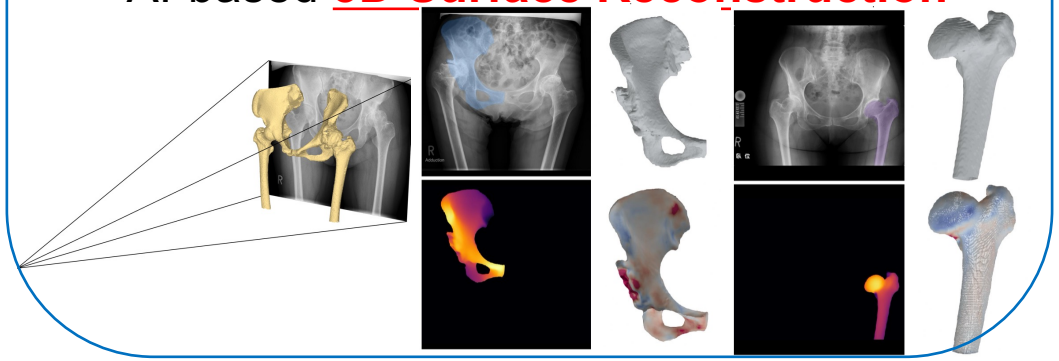
Training Datasets
(2D X-ray and 3D CT images)



AI-based Image Decomposition:
Predicting **Density Distribution**[1][2]



AI-based **3D Surface Reconstruction**[3]



References

1) Bone Mineral Density Prediction: MICCAI2022, MedIA2023
2) Muscle Density Prediction: MICCAI2023
3) 3D Shape Prediction: MICCAI2024 (To Be Published)

(1)

(2)

Application Procedure

Follow the steps below to formally apply to the NAPI program

1. Check if you are **eligible** to apply
2. Attend the NAPI Information Session at ADMU on **October 1, 2025** (optional but recommended)
3. Decide on a first and second choice **laboratory**
4. Prepare the following documents:
    - Scanned copy of passport
    - Scanned copy of Certificate of Enrollment or Graduation

      Note: This document is available at the **ADMU Office of the Registrar** and is different from the Tuition Receipt

5. Ask permission from your Thesis Adviser, Department Chair, Program Director, or other ADMU faculty member to complete the Recommendation Form for your NAPI application

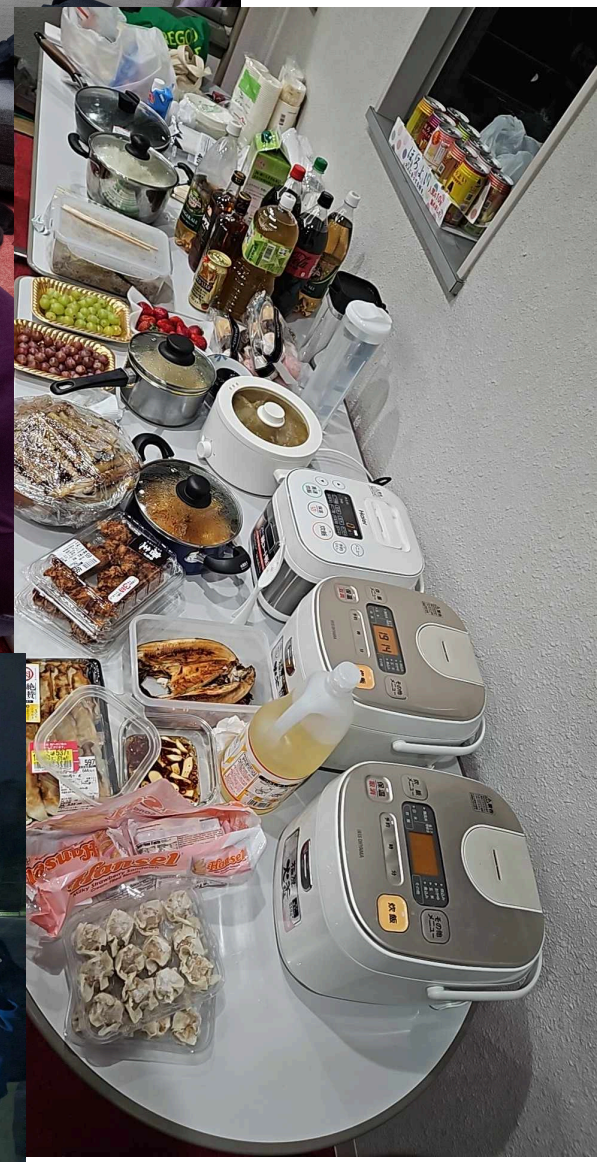
   Note: The Recommendation Form will be automatically sent to your recommender's email after you submit the Application Form below

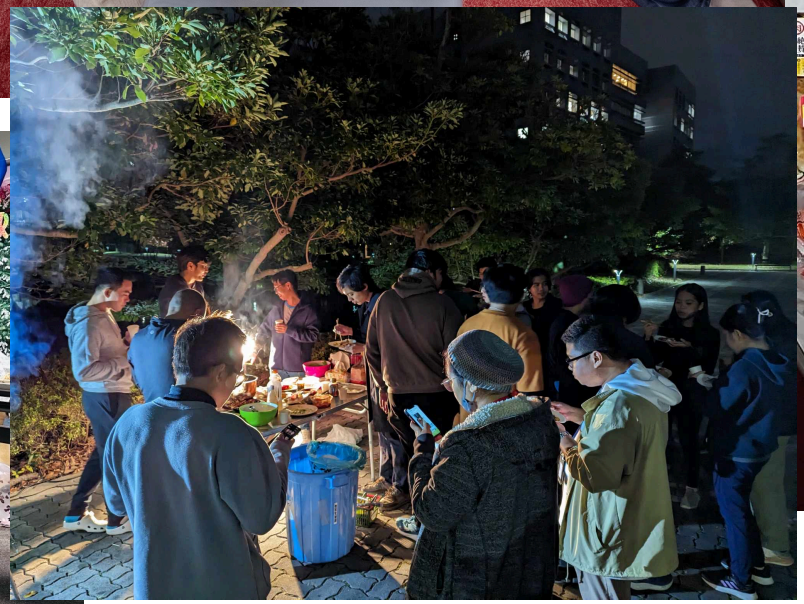
6. Submit the **Application Form** by **October 24, 2025**
7. Remind your recommender to complete the Recommendation Form by **October 31, 2025**

NAPI 2018


青春とは
人生の特定の時
心のあり方
強い意志
熱い情熱
青春とは 将に
生命の湧い泉
勇気 活力を持
その人は青春にある

HOHOL





NAPI 2024 VLOG @rayahnogomibako

What is NAPI?

The NAIST Project for Interns (NAPI) offers yearly internship opportunities for students coming from the School of Science and Engineering (SOSE) of the Ateneo de Manila University (ADMU) in the Philippines.

Important Dates

- Call for Applications: **September 1, 2025**
- NAPI Information Session at ADMU: **October 1, 2025**
- Application Deadline: **October 24, 2025**
- Recommendation Submission Deadline: **October 31, 2025**

NAIST Project for Interns (NAPI) 2026
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https://napi-naist.github.io