KODJO TCHAKOUTE LEROY

SYSTEMS ENGINEERING | ROBOTICS | CONTROL SYSTEMS

Yokohama, Japan | PhD Candidate | Research-oriented engineering

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PROFESSIONAL PROFILE

PhD Candidate in Control and Robotics with research experience in data-driven control of nonlinear systems, high-degree-of-freedom robot teleoperation, controller optimization, and experimental validation. In parallel, a Vehicle Systems Engineer intern at Bosch, supporting an automotive radio-frequency ECU development across hardware (test bench) and software tasks, OEM benchmark reproduction, customer-requirement analysis, and design implementation. He brings a collaborative, initiative-driven approach to technical problem solving, with experience communicating research and engineering findings to technical stakeholders.

CORE EXPERTISE

Robotics and Control

Robotics · Control systems · Data-driven control · Nonlinear systems · Volterra-series modeling · Controller optimization · Teleoperation

Engineering and Validation

System engineering · Electrical engineering · Electronics design · Experimental validation · Test-bench work · Simulink · Simscape

Programming and Tools

C++ · Python · C · MATLAB · SolidWorks · KiCad · Proteus · Jira · Agile tools

Automation

AI-assisted automation · AI agent design · Robotic Process Automation

Transferable Strengths

Cross-functional collaboration · Technical communication · Analytical problem solving · Initiative · Stakeholder-oriented thinking · Research presentation

PROFESSIONAL EXPERIENCE

BOSCH

System Engineer (R&D Intern) | 2026-Present, JAPAN

- Supported development of a radio-frequency ECU for automotive applications.
- Reproduced an existing OEM benchmark on a test bench and worked across hardware and software aspects of the test environment.
- Used Python and C in software works.
- Optimized response time of the test bench to meet customer's requirements.
- Reviewed OEM demands, analyzed flaws, and proposed strategies.
- Developed an AI-assisted concept for automating Agile ticket assignment using APIs.
- Developed an AI-assisted project-interaction concept with a GUI for querying project status and functionality and presenting information graphically.

RESEARCH EXPERIENCE

DATA-DRIVEN CONTROL OF NONLINEAR SYSTEMS | 2023-Present, JAPAN

- Developing a data-driven algorithm to estimate system behavior from a minimal input-output data.
- Using CDDS and Volterra-series modeling to represent system behavior and dynamics.
- Evaluating system reproduction through RMSE, MAE and other statistical metric.
- Redesigning and optimizing controller parameters using estimated behavior.

TELEOPERATION AND HIGH-DOF ROBOTICS | 2026-Present, JAPAN

- Researching teleoperation of a constrained high-degree-of-freedom parallel robot.
- Working with a robot comprising two arms with six degrees of freedom per arm.
- Modeling motor torque as input and slave-side motor position as output.
- Relating end-effector/platform position to motor positions.
- Investigating nonlinearities and physical constraints from experimental data.

DC-DC MICROGRIDS | 2024-2024, QATAR

- Studied DC-DC microgrids with a focus on boost converters.
- Developed theory and simulation work in MATLAB and Simulink.
- Performed experimental validation in open and closed loop, implemented Droop, Voltage, and Current Control.

PUBLICATIONS AND RESEARCH COMMUNICATION

- Published at IEEJ, SAMCON-2025, and JIASC-2025 conferences.
- Presented a research poster at the PROM Program, Poland, 2026.
- Presented a research poster at PEMC Camp 2026.
- Presented research posters at PEMC Camp in 2023, 2024, and 2025.
- Participated in the international conference on robotics, ICRA, Japan, 2024.

EDUCATION

YOKOHAMA NATIONAL UNIVERSITY **2025-present**
PhD Candidate, Control and Robotics / System Engineering

YOKOHAMA NATIONAL UNIVERSITY **2023-2025**
MEng, Electrical and Computer Engineering

UNIVERSITY OF BUEA **2018-2021**
BTech, Electrical and Electronic Engineering

LANGUAGES

French (**Native**) · English (**Fluent**) · Japanese (**Lower-Intermediate**)

AWARDS

- **PROM Scholar**
  Research Mobility program funded by the EU and the Polish government **2026-2026**
- **MEXT Scholar**
  Doctoral Studies Fully funded by the Japanese Government **2025-2028**
- **MEXT Scholar**
  Masters Studies Fully funded by the Japanese Government **2023-2025**
- **Best Student Award**
  The University of Buea, recognizing academic merit and Excellence **2018-2021**