



# Research Detail / Research Interest

Applied AI for Intelligent Decision Support and Data-Driven Systems

<b>Applicant</b>	Roberto Ocaviantyo Tahta Laksana
<b>Academic Background</b>	Diploma 3 in Management Informatics, Universitas Gunadarma   GPA 3.89/4.00
<b>Target University</b>	The University of Aizu, Japan
<b>Target Program</b>	ICT Global All-English Program, School of Computer Science and Engineering
<b>Target Degree</b>	Bachelor's Degree in Computer Science and Engineering
<b>Document Type</b>	Research Detail - concise professor/application review version
<b>Document Status</b>	Prospective Undergraduate Applicant   Professor and Application Review Version
<b>Date</b>	30 May 2026

## Research Interest Status

This is a focused research-interest document for professor contact and application review. It is not a final thesis proposal; it is a clear academic direction that can be refined with a professor or laboratory at The University of Aizu.

## Research Title

Applied Artificial Intelligence for Intelligent Decision Support and Data-Driven Systems

### 1. Background

Artificial Intelligence is increasingly used to support prediction, classification, automation, monitoring, and decision-making. Many organizations collect digital data, but they still need reliable systems that can transform data into practical insight. With my background in Management Informatics, I am interested in how Computer Science and Engineering can support intelligent systems that are technically reliable, useful to users, and responsible in real-world contexts.

### 2. Research Interest

My main research interest is Applied AI for intelligent decision support. I want to study how machine learning, software engineering, data systems, and human-centered ICT design can be combined to build systems that help users make better decisions. I am especially interested in AI applications for education analytics, IT service operations, business intelligence, smart digital services, and workflow improvement.

### 3. Research Problem

In many practical environments, data is available but not always used effectively for early warning, prioritization, prediction, or recommendation. Systems may generate reports, but they often do not provide intelligent explanations or action-oriented support. This creates a research opportunity to design applied AI workflows that are accurate, explainable, maintainable, and useful for decision-making.

### 4. Proposed Direction

- Study decision-support workflows where AI can improve prediction, classification, prioritization, monitoring, or recommendation.
- Explore suitable machine learning methods and evaluation metrics for practical datasets.
- Connect AI models with software engineering practices so the solution can be implemented, tested, monitored, and improved.
- Consider responsible AI aspects such as data quality, privacy awareness, fairness, interpretability, and human-centered use.

## 5. Preliminary Research Questions

- How can applied AI improve prediction or prioritization in practical information systems?
- What data preparation and evaluation methods are suitable for reliable decision support?
- How can AI results be presented clearly through dashboards, explanations, or software interfaces?
- How can responsible AI principles be considered in practical AI-enabled systems?

## 6. Possible Methodology

Step	Description
Literature Review	Review applied AI, machine learning, decision support, data quality, software engineering, and responsible AI.
Problem Scenario	Select a practical scenario such as student performance support, IT service prioritization, operational monitoring, or smart service decision support.
Data and Modeling	Prepare data, choose suitable features and methods, train models, and evaluate performance using appropriate metrics.
Prototype and Evaluation	Design a dashboard, workflow, or software prototype that communicates AI output in a usable and understandable way.

## 7. Relevance and Expected Contribution

This research direction fits The University of Aizu because it is centered on Computer Science and Engineering and connects naturally with AI-related areas such as machine learning, deep learning, big data, intelligent systems, software implementation, and responsible AI. The expected contribution is a clearer understanding of how applied AI can be designed, evaluated, and integrated into practical systems that help users make better decisions.

Indonesia, 30 May 2026



**Roberto Ocaviantyo Tahta Laksmana**  
Applicant

