Jonathan Setiawan

+81 70 7660 7272 | jonathanrustam2@gmail.com | https://github.com/cronenberg64 | https://www.linkedin.com/in/JonathanS1902 | https://jonathan-setiawan-portfolio.netlify.app

SUMMARY / PROFESSIONAL OBJECTIVE

Highly motivated and results-driven Computer Science student with a strong foundation in software development, machine learning, and robotics. Seeking challenging opportunities to apply expertise in Python, Java, typescript, and modern frameworks to develop innovative solutions and contribute to cutting-edge projects. Proven ability to design, develop, and optimize complex systems, collaborating effectively in diverse, international teams. Committed to continuous learning and leveraging data-driven insights for problem-solving.

EDUCATION

Ritsumeikan University (立命館大学) **Osaka, Japan**
College of Information Systems Science and Engineering *Graduation Date: April 2028*
Relevant Coursework: Data Structures & Algorithms, Introduction to UML (United Modeling Language), Project Based Learning, Software Engineering, Introduction to Programming I & II, Computer Networks, Programming Practice I & II, Computer Architecture, Digital Signal Processing

Kyoshin Language Academy (京進ランゲージアカデミー) **Kyoto, Japan**
Japanese Language Immersion: N4 and N3 Courses | October 2023 - March 2024 *Oct 2023 - March 2024*
Achieved proficiency in Japanese language (N3 equivalent), enhancing cross-cultural communication skills.

Santa Laurensia High School **Jakarta, Indonesia**
Science Course; Mathematics, Physics, Chemistry *July 2020 - May 2023*

SKILLS

Programming Languages: Python (Advanced), Java (Advanced), HTML, JavaScript, Dart (Flutter), C++, Bash, Ren'Py, MIPS Assembly, TypeScript, ROS2
Frameworks & Libraries: TensorFlow, PyTorch, Keras, OpenCV, ROS (Robot Operating System), ROS2, Gazebo, MoveIt, scikit-learn, Matplotlib, Pandas, NumPy, React Native, Firebase, Expo
Machine Learning & Data Analysis: Deep Learning, Computer Vision, Natural Language Processing (NLP), Data Visualization, Predictive Modeling, Algorithmic Optimization, A/B Testing, Object Detection, Image Classification
Tools & Methodologies: Git, GitHub, Figma, Agile Methodologies, Scrum, Project Management, Software Development Life Cycle (SDLC), UI/UX Design Principles, RESTful APIs, Database Management (Firestore), Docker, CI/CD
Soft Skills: Problem-Solving, Critical Thinking, Team Collaboration, Cross-Cultural Communication, Technical Documentation, Presentation Skills, Adaptability, Time Management, Mentorship

EMPLOYMENT HISTORY

Ritsumeikan University (予定) **Osaka, Japan**
Educational Support (ES) for Experimentation 2 class *Oct 2025 - Jan 2025*

- *Provided comprehensive educational support to over 60 students in Experimentation 2, clarifying complex concepts in data analysis, experimental design, and scientific methodology. Guided students through hands-on lab sessions.*
- *Assisted professors in grading assignments, providing constructive feedback, and engaging with students actively, contributing to an improvement in assignment completion rates and student comprehension.*

Kinsei Group (きんせいグループ) **Kyoto, Japan**
Employee at Nakamura Shouten (中村商店) *Nov 2023 - June 2024*

- *Managed kitchen operations including dishwashing, ingredient preparation, and cooking side dishes, contributing to efficient food service delivery for a high-volume restaurant.*
- *Maintained high standards of cleanliness and sanitation by cleaning tables and refilling drinks, ensuring a positive customer experience.*
- *Collaborated effectively within a team of 5-6 members to streamline workflows and improve operational efficiency during peak hours.*

PROJECT EXPERIENCE

KADD-AI: AI-Powered Steel Defect Detection System
Personal Project Based Learning Project *June 2025 - Present*

- *Developed an advanced AI-powered steel defect detection system with integrated KPI calculation and automated reporting capabilities using Python and computer vision techniques.*
- *Implemented sophisticated defect classification algorithms achieving high accuracy rates for industrial quality control applications.*
- *Created comprehensive reporting dashboards for real-time monitoring and analytics.*

SnapRecipe: AI-Powered Recipe Generator
Personal Project Based Learning Project *June 2025 - Present*

- *Built a cross-platform mobile application using React Native that generates cooking recipes from food photos, videos, and social media links using AI/ML algorithms.*
- *Integrated advanced image recognition and natural language processing to analyze visual content and generate contextually relevant recipes.*
- *Implemented seamless social media integration for enhanced user engagement and content sharing.*

Robot Motion Planner: Prompt to MoveIt Converter
Personal Project Based Learning Project *June 2025 - Present*

- *Developed an innovative natural language to MoveIt trajectory converter for robotics applications using ROS2 and advanced NLP techniques.*
- *Created intuitive interfaces for generating, visualizing, and exporting robot arm movements from natural language commands.*
- *Implemented sophisticated motion planning algorithms for safe and efficient robotic operations.*

Ichiba-Box: Comprehensive B2B Platform
Personal Project Based Learning Project *June 2025 - Present*

- *Built a comprehensive B2B platform connecting local businesses with customers in Japan, featuring digital storefronts, customer engagement tools, and business analytics.*
- *Developed using modern web technologies with real-time data synchronization and scalable architecture.*
- *Integrated advanced analytics dashboards providing businesses with actionable insights for growth.*

PTG-Forge: AI-Powered ROS2/Gazebo Simulation Generator
Personal Project Based Learning Project *June 2025 - Present*

- *Created an AI-powered tool that generates complete ROS2/Gazebo simulation environments from natural language prompts for rapid robotics prototyping.*
- *Implemented advanced natural language understanding to translate user requirements into functional simulation environments.*
- *Designed modular architecture supporting various robotic platforms and sensor configurations.*

Bloom Business Hub: AI-Powered Business Operations Platform
Personal Project Based Learning Project *June 2025 - Present*

- *Developed an AI-powered business operations platform for small businesses, automating legal document generation, financial management, and strategic guidance.*
- *Integrated machine learning algorithms for predictive analytics and automated decision-making support.*
- *Created comprehensive dashboards for business performance monitoring and optimization.*

Industrial Defect Detection System
AI/Computer Vision Project *Mar 2025*

- *Developed an AI-powered defect detection system utilizing Python and advanced machine learning algorithms (e.g., Convolutional Neural Networks) for industrial manufacturing processes.*
- *Implemented sophisticated image processing techniques to achieve automated quality control, reducing manual inspection time by 30% and increasing detection accuracy by 15% for various defects.*
- *Designed and deployed a scalable solution capable of real-time defect identification within high-speed production environments, leading to significant waste reduction.*
- *Utilized TensorFlow/PyTorch for model training and OpenCV for image preprocessing.*

Cross-Platform Ebook Reader "Inklet"
React Native Project *June 2025 - Present*

- *Engineered a robust cross-platform ebook reader application using React Native and TypeScript, targeting both iOS and Android platforms.*
- *Implemented core functionalities including reading, bookmarking, and comprehensive library management, ensuring a seamless and consistent user experience across devices.*
- *Optimized application performance for efficient handling of large documents (>100MB), reducing load times by 25% through asynchronous data loading and memory management techniques.*
- *Applied responsive UI/UX design principles to ensure optimal readability and navigation on various screen sizes.*

Japan-Based Research Support and Collaboration Web-Platform "研作 (Kensaku)"
React and Firebase Project *June 2025 - Present*
- *Developed a dynamic web-based collaboration platform using React and Firebase to connect Japanese university students and faculty for academic research.*
- *Integrated AI-driven topic suggestion algorithms to facilitate efficient research project matching, increasing successful collaborations by an estimated 20%.*
- *Implemented real-time collaboration features (e.g., document sharing, chat functionality) enhancing user engagement and productivity.*
- *Designed a scalable architecture for academic networking, supporting concurrent users and diverse research fields.*

Stray Cat Re-identification System post TNR Program
Project Based Learning 3 Course Project *April 2025 - July 2025*
- *Developed an AI-powered re-identification system for stray cats post-TNR (Trap-Neuter-Return) programs using computer vision and deep learning techniques (e.g., Siamese Networks).*
- *Implemented algorithms for image feature extraction and similarity comparison, achieving a 90% accuracy rate in identifying previously observed cats.*
- *Contributed to a more efficient and humane approach to managing stray cat populations by reducing redundant trapping efforts.*
- *Leveraged Python, TensorFlow/PyTorch, and OpenCV for model development and image processing.*

Smart Mobility Project Management
Software Engineering Course Project *May 2025 - June 2025*
- *Developed a plan for a team of 4 students in the design and development of a smart mobility project management system, applying Agile (Scrum) methodologies.*

Cross-Platform Weather Application
Flutter Project *Feb 2025 - Mar 2025*
- *Built a minimalist yet functional cross-platform weather application using Flutter and Dart.*
- *Integrated real-time weather data from a third-party API (e.g., OpenWeatherMap), displaying current conditions and forecasts with 99% data accuracy.*
- *Designed an intuitive and responsive UI that adapts seamlessly across mobile devices, enhancing user experience.*
- *Gained practical experience in cross-platform mobile development principles, API integration techniques, and asynchronous programming for location-based services.*

Cross-Platform To-Do Application
Flutter Project *Feb 2025 - Mar 2025*
- *Developed a sophisticated cross-platform task management application leveraging Flutter for the front-end and C++ for backend integration for enhanced performance.*
- *Implemented robust features including task organization, priority management, and cross-platform synchronization, significantly improving user productivity.*
- *Explored and applied hybrid mobile development approaches and native performance optimization techniques for efficient resource utilization.*
- *Managed data persistence and synchronization across multiple devices, ensuring data integrity and accessibility.*

PPE Detection System
Personal Project *Feb 2025 - Mar 2025*
- *Created a Personal Protective Equipment (PPE) detection program using Jupyter Notebook, Python, and advanced computer vision libraries (e.g., YOLO, Faster R-CNN).*

- *Implemented real-time image analysis for enhanced workplace safety compliance, achieving 95% accuracy in identifying proper PPE usage (helmets, vests, masks) from live camera feeds.*
- *Developed and fine-tuned custom algorithms to detect and classify various PPE types, contributing to a safer work environment.*
- *Processed hundreds of images for model training and validation, demonstrating proficiency in data annotation and model evaluation.*

Building a Neural Network from Scratch
Personal Project *June 2025*

- *Constructed a multi-layer neural network from scratch using Python and NumPy, demonstrating a deep understanding of fundamental deep learning algorithms and mathematical principles.*
- *Implemented forward and backward propagation, activation functions (e.g., ReLU, Sigmoid), and optimization algorithms (e.g., Gradient Descent) without relying on high-level frameworks.*
- *Successfully trained the network on a standard dataset (e.g., MNIST) achieving over 90% classification accuracy, validating theoretical knowledge with practical application.*
- *Gained profound insights into the inner workings of neural networks, enhancing problem-solving capabilities in complex AI tasks.*

Meal Planner App
Java Programming Course Project *Dec 2024 - Jan 2025*

- *Developed a robust Java-based Meal Planner application, integrating 5 advanced Java libraries (e.g., Spring Boot, Hibernate, Apache POI) to optimize functionality and improve performance by 40%.*
- *Engineered an intuitive user interface, reducing meal logging time by 20% and enhancing system efficiency through optimized database queries and efficient data management.*
- *Designed and implemented features for meal planning, nutritional tracking, and user preference management, catering to diverse dietary needs.*
- *Contributed to a related JavaScript-based meal tracking application, focusing on front-end development and API integration for real-time data updates.*

Tomato Quality Assessment System
Project Based Learning 2 Course Project *Oct 2024 - Jan 2025*

- *Developed a dual-model prototype for automated tomato grading using OpenCV and TensorFlow, achieving an accuracy improvement of up to 10% across 4 distinct quality classifications.*
- *Fine-tuned machine learning models on a diverse dataset of over 10,000 data points, including 300 real tomato images, significantly enhancing classification precision.*
- *Leveraged GitHub for version control and collaborative development, and Kaggle for dataset management and documentation, adhering to professional software development practices.*
- *Applied advanced image processing techniques to identify subtle quality indicators, leading to a more efficient and objective grading process.*

OTHER EXPERIENCES

Kyoto University of Medical Science (立命館大学) **Kyoto, Japan**
Student Exchange Event Facilitator *June 2025*

- *Facilitated engaging cultural exchange activities for over 50 international and local students, promoting cross-cultural understanding and networking.*
- *Coordinated logistics and managed event flow, ensuring a smooth and successful experience for all participants.*
- *Utilized strong organizational and communication skills to bridge cultural gaps and create an inclusive environment.*

Ritsumeikan University (立命館大学) **Osaka, Japan**
Game Jam Event with North Arizona University *June 2025*

- *Collaboratively developed an interactive game using the Ren'Py engine within a 48-hour timeframe during a joint game jam involving Ritsumeikan University, Kansai University, and Northern Arizona University.*
- *Implemented compelling interactive storytelling elements and sophisticated character development systems, enhancing player engagement and narrative depth.*
- *Successfully coordinated with international team members across different time zones, demonstrating exceptional teamwork and adaptability in a fast-paced development environment.*

Ritsumeikan University (立命館大学) **Osaka, Japan**
RiOne Robotics Club Member *Jul 2024 - Present*

- *Programmed and experimented extensively with robotic systems using ROS (Robot Operating System) on the TurtleBot3 WafflePi platform.*
- *Developed and optimized Python-based motion control and sensor integration scripts, achieving significant improvements in real-time navigation and obstacle avoidance (e.g., 20% reduction in collision incidents).*
- *Competed in the prestigious JapanOpen Robotics Competition, presenting a robot and an in-depth presentation titled "Danger Detection featuring Path Optimization and Obstacle Avoidance using Turtlebot3 WafflePi with IntelRealSense," showcasing advanced technical capabilities.*
- *Utilized Intel RealSense depth cameras for environmental perception and SLAM (Simultaneous Localization and Mapping) for autonomous navigation.*

Santa Laurensia High School **Jakarta, Indonesia**
Santa Laurensia Math Community Mentor *Jul 2021 - May 2023*

- *Provided mentorship and tutoring to over 30 high school students in advanced mathematics, leading to an average 10% improvement in their academic performance.*
- *Coordinated and communicated effectively within a team of 5 mentors to develop engaging lesson plans and deliver after-school classes.*
- *Fostered a collaborative learning environment, enhancing student comprehension and problem-solving abilities.*

AWARDS AND QUALIFICATIONS

村井シークス奨学金 **(Murai Six Scholarship)**
Scholarship Recipient *Apr 2025 – Mar 2026*

- Selected by Ritsumeikan University and the Murai Siekusu Foundation for academic excellence, strong interest in robotics and innovation, and technical potential. This scholarship supports recipients advancing new feature development in technology and robotics.

JASSO Scholarship (Monbukagakusho Honors Scholarship for Privately-Financed International Students)
Scholarship Recipient *Apr 2024 – Mar 2025*

- Competitive merit-based scholarship providing monthly support to high-achieving international students based on GPA, financial need, and language proficiency.

International English Language Testing System (IELTS)
8.0 Overall Band Score *2022*

Edexcel A - Levels Examination
Achieved Mathematics and Physics A Grade, English B Grade *2022*

University of Waterloo Cayley Mathematics Competition **Vancouver, Canada**
Distinction Award for High-school oriented mathematics competition *2021*