

# SATWIKA BINTANG BAHANA

Depok, Indonesia, 16425 | +6282335618121 | [bintangsatwika@gmail.com](mailto:bintangsatwika@gmail.com) |  
<https://www.linkedin.com/in/satwika-bintang-bahana/> | <https://github.com/Bintang-Satwika>

I am penultimate-year student of Electrical Engineering, currently exploring novel opportunities that hold the potential to elevate both my personal growth and professional development. I have a strong interest and have built my knowledge in artificial intelligence, data science, data analysis, and robotics. I am actively volunteering as the team leader for the humanoid robotic team at UI. As a dynamic professional, I actively contribute to decision-making, leveraging insights cultivated through diverse experiences. My unwavering commitment to teamwork is manifested in a collaborative approach, fostering an inclusive and synergistic environment.

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## EDUCATIONAL EXPERIENCES

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### **Universitas Indonesia, Depok (Aug 2021 – Present)**

- Penultimate-year student as an Undergraduate in Electrical Engineering
- GPA: 3.74/4.00

### **SMAN 1 Magelang (Jun 2018 – May 2021)**

- Graduated in Natural Science

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## PROFESSIONAL EXPERIENCES

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### **Team Leader on KRSBI-Humanoid at Tim Robotika Universitas Indonesia (Jan 2022-Present)**

- Collaborated with IME FTUI to organize a robotic arm workshop for college students.
- Served as a judge for the robotic arm competition.
- Developed computer vision for a humanoid robot using YOLOv4 & YOLOv7 architecture and OpenCV in Python.
- Currently researching ways to enhance humanoid robot kinematics. My focus involves refining algorithms and control mechanisms for more precise and naturalistic movements.

### **Develop an Application at RSUPN Dr. Cipto Mangunkusumo (Dec 2022 - May 2023)**

- Part of a three-person development team that developed an application to enable reading graphs generated from signals provided by Arduino and storing patient data SQLite. The primary library we utilized is PyQt5 in Python for GUI.
- I contributed to the visualization of graphs generated from signals transmitted by Arduino, which detects human chest respiration using sensor to measuring distance. The graphs that can be used for cancer research purposes.

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## PROJECTS PORTFOLIO

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- **YOLOv4 Object Detection** (January 2023)  
YOLOV4 is object detection algorithm. I conducted training on soccer ball dataset utilizing the YOLOv4 algorithm. The training dataset consists of a compilation of images captured using my own mobile phone camera.
- **Harnessing AI & Data Science for IMDB Dataset** (Mar 2023 - April 2023)  
Key Member of a four-person team that conducted in-depth exploratory data analysis (EDA) on the IMDB dataset, enabling us to develop models for movie rating prediction and implement

clustering techniques. I was responsible for both pre-processing the dataset and developing models using the random forest and neural networks libraries from scikit-learn in Python for movie rating prediction. I also contributed to the EDA by visualizing the dataset.

- **Smart Door-Lock System using RFID Sensor** (May 2023 – June 2023)

Key member of a three-person team that created a smart door-lock system using RFID technology and Arduino microcontrollers as the transmitter and receiver for door locking and unlocking. I was responsible for both the code and hardware. Input from the device is acquired through an RFID sensor, which properly scans the unique ID card.

- **Developed an application for document scanning** (Jul 2023 -Aug 2023)

Part of a four-person development team that developed a document scanner application using PyQt5. The app features OCR, color saturation adjustment, file format conversion, PDF merging, and image preprocessing capabilities. I played a key role in backend development, focusing on camera and image pre-processing, and utilized OpenCV in Python for the implementation.

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## ACHIEVEMENT

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- **Achieved 2nd Place in the Technoskill 1.0 Competition 2023** (May 2023)

Key member of a three-person team, I was responsible for created model for mask detection using library Tensorflow-python and implementing a neural network based on CNN architecture. My team and I successfully attained the goal in alignment with the initial target and authored the paper in under a week also achieved 2<sup>nd</sup> place.

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## SKILLS

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- Data Visualization
- Machine Learning
- Neural Network
- Computer Vision
- Knowledge of Artificial Intelligence, Data Science, and Data analytic
- Embedded System