

LANG BANDITHVIPH

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 [Personal Portfolio](#)

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ABOUT ME

I'm passionate about building AI-driven solutions that deliver real-world impact, especially in computer vision and robotics. My interests lie in deep learning, human pose estimation, and machine learning, where I enjoy transforming research ideas into practical, deployable systems. I'm motivated by how intelligent models can enhance human-computer interaction and solve meaningful challenges through innovative design and implementation.

WORK EXPERIENCES

SekSaa Tech Academy

Robotic Lab Assistant and Part-time Robotic coach

Present

Phnom Penh, Cambodia

- Listing and Preparing Electronic components in Robotic Lab.
- Design and build mini AI (YOLO, OpenCV) and robotic project for teaching, includes, obstacle avoidance robot car, smart lighting, IR remote robot car, line tracking robot car.
- **Tools:** Microbit MakeCode (Code Block), Micro-python, Arduino IDE, Raspberry Pi.

National Chung Cheng University

Computer Vision Research Intern

03 March - 30 June, 2025

Chia-Yi, Taiwan

- **Topic:** Multiple Hypotheses Fusion-Based Approaches for 3D Human Pose Estimation
 - Utilized D3DP (Diffusion-based) to generate multiple 3D pose hypotheses, and designed a Fusion Network to synthesize the most accurate final 3D human pose.
 - Implemented Feature Fusion and Early Fusion strategies to improve accuracy and robustness compared to SOTA methods by modeling uncertainty more effectively.
- **Course work:** Pattern Recognition, Computer vision workshop.

Cambodian Sign Language Recognition and Translation

Project leaded (self-employed)

01 Sep, 2024 - Present

Phnom Penh, Cambodia

- Developed a real-time Cambodian Sign Language recognition system using deep learning to translate signs into text and speech.
- Collected and processed data, extract 2D keypoints from RGB videos using MediaPipe Holistic.
- Trained an LSTM-based recognition model on a custom Cambodian Sign Language dataset.
- Integrated MMS-TTS to generate natural Cambodian text-to-speech output.

Achievement:

- Business Model Competition, Cambodia (BMC)
 - Digital Tech Award, Trip to Dublin, Ireland
- Unipreneur Competition, Cambodia
 - Top 6 National Award, Price 1500 (USD)

AI Farm Robotic Factory
AI Engineering Research Intern

01 Aug, 2024 - 01 Nov, 2024
Phnom Penh, Cambodia

- **Topic:** Sim-To-Real Reinforcement Learning for two wheel Robot Navigation
 - Trained a robot for autonomous navigation in unknown environments using reinforcement learning (SAC and PPO). Conducted simulation in ROS2 and Gazebo.
 - Deployed the trained model on a real robot (unsuccessfully).

Asia-Pacific Robot Contest (ABU Robocon 2024)
Leaded Programming Team

Oct, 2023 - July, 2024
Phnom Penh, Cambodia

- Developed a ROS2-based control system for an autonomous ball-collecting robot.
- Trained a YOLO object detection model on a custom dataset for three ball colors.
- Quantized the model to TensorRT and deployed it on Jetson AGX Xavier.
- Enabled the robot to autonomously locate balls and deposit them into silos autonomously.

AI Farm Robotic Factory
AI Engineering Intern

01 Aug, 2023 - 01 Nov, 2023
Phnom Penh, Cambodia

- **Topic:** Two wheel Robot Navigation using ROS2
 - Create Gazebo and Rviz environment, scan map using slam toolbox in Nav2 framework.
 - Integrated Path Planning (A-star) and Path Tracking (PID Control) for differential robot navigation.

EDUCATION BACKGROUND

Institute of Technology of Cambodia (ITC)

Dec, 2020 - July, 2025
Phnom Penh, Cambodia

- Engineering Degree in Electronic and Automation

Husen Stung Treng High School

2020

- High School Diploma

Stung Treng, Cambodia

SKILLS AND COMPETENCE

- **Programming Languages:** Python, C/C++, MATLAB (Simulink), ROS2 (Gazebo, RViz)
- **DL/ML frameworks:** PyTorch, TensorFlow/Keras, Scikit-Learn, Hugging Face Transformers
- **Libraries:** OpenCV, MediaPipe, YOLO (v8), NumPy, Pandas, Matplotlib, Seaborn, Open3D.
- **Other Tools:** Git/GitHub, SSH, Linux terminal, Virtual environments, Anaconda.
- **Dataset Creation:** Roboflow, LabelImg, and custom scripts.

REFERENCE

- Dr. CHRIN Phok
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