# Thornen San

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## SUMMARY

I am a self-motivated individual with a passion for technology and a strong desire to constantly learn and improve. From a young age, I have been fascinated by the way technology. I have a positive attitude and approach every challenge with optimism and determination. I enjoy collaborating with others to achieve common goals. I am also adaptable and thrive in fast-paced environments where I can use my problem-solving skills to overcome obstacles. Overall, I am driven, curious, and eager to make a meaningful contribution to the world through my work in technology.

## SKILLS

- Python
- AI
- Version Control (Git)
- HTML, CSS & JavaScript
- Frontend Framework (React, Vue)
- Electron Js
- IOT (Internet of thing)
- Docker
- API
- Database (NoSQL, SQL)
- Project documentation
- Design and development

## EXPERIENCE

**IOT & API Developer (Smart Laundry System)** | Kompong Speu

- Contributed to the development of a laundry machine control system using a Raspberry Pi and relay control
- Wrote Python code to handle the system's functionality, including scanning QR codes to turn on the machine
- Automated the process of sending an email with a QR code to users on their scheduled day using cron job
- Developed the API from scratch, including authentication and authorization using JWT tokens
- Managed the server and set up UFW to block unused ports
- Used Node.js, Express, Docker, and Nginx to run the API locally
- Helped develop a GUI for the Raspberry Pi using KivyMD
- One of the core members of the team, responsible for hardware works, Python code, and API development Gained experience in hardware, software, server management, project coordination, and teamwork

**IOT & Software Developer (Resort Smart Lock System)** | Kompong Speu

- Developed an IoT system for a resort that allowed customers to open their room door using a QR code
- Wrote the program for the Raspberry Pi using Python and Socket.IO to control the solenoid lock and log unlocking activity on MongoDB
- Collaborated with another team using the Odoo system for booking and with resort staff and network teams to ensure smooth integration of the system
- Installed Raspbian OS on the Raspberry Pi, assigned a static IP and hostname, and set up automatic program run on bootup as a service Managed the system server and documented all work thoroughly
- In summary, my key responsibilities included developing and implementing an IoT solution for the resort that integrated with existing systems, writing and optimizing code for the Raspberry Pi, managing the server, and collaborating with internal and external teams. This experience allowed me to gain expertise in IoT, programming, server management, and documentation.

**Full Stack Developer (WebRTC + WebXR)** | Kompong Speu

- Developed a web application that allows users to video call each other and transform their appearance into a live2d character
- Utilized AgoraRtm as a signaling server, WebRTC for real-time communication, live2d SDK for character rendering, stun and turn servers for network connectivity, and Pixi JS for graphics rendering
- Integrated Mediapipe for face detection, which allowed the live2d character to mimic the user's facial movements in real-time
- Used Kalidokit for Kinematic Solver, which enabled the character to accurately replicate the user's movements
- Worked as a full-stack developer, responsible for developing both front-end and back-end components of the web app
- Contributed to the development of the UI, ensuring a seamless user experience

- This experience allowed me to gain expertise in various technologies including WebRTC, live2d SDK, Mediapipe, Kalidokit, and Pixi JS. It also provided me with valuable experience working as a full-stack developer and developing user-friendly UIs.
- In summary, I played a critical role in developing a unique and engaging video calling web application, integrating various technologies and contributing to the UI design. This experience allowed me to gain expertise in various web development technologies and to develop my skills as a full-stack developer.

**3D Mobile Game Developer (Unity)** | Kompong Speu

- Developed a 3D mobile game using Unity engine
- Created a zombie shooting game set on an abandoned island
- Responsible for game rig animations and game mechanics including movement, enemy behavior, health system, shooting mechanics, etc.
- Wrote C# programs to implement the game features and functionality
- Successfully deployed the game on the Google Play Store
- Gained valuable experience in game development, including animation, programming, and deployment on mobile platforms.

**Full Stack Developer (Online Examination System)** | Kompong Speu

- Developed a desktop application using Electron JS for an online examination system
- Created the system for controllers of examination to easily create and manage exams Developed the system to prevent cheating by setting the desktop in kiosk mode and detecting tab switches and keyboard shortcuts
- Contributed to the development of the dashboard using React JS, Vite JS, and Material UI
- Responsible for the backend of the system using Firebase, Firestore, and Cloud Function
- Designed the system to allow controllers of examination to create exams using Google Forms and assign registered students
- Created a lobby page where exams will show up for examinees and rendered the exams in Google Forms through the Electron app
- Made the system user-friendly and easy to use for both controllers of examination and examinees by using Google Forms

**Trainee (AI Training)** | Kompong Speu

- Join Intensive AI training for 15 days organized by Kirirom Institute of Technology
- Acquired valuable knowledge and skills in the rapidly growing field of AI
- Gained experience in data preprocessing and model training
- Gained hands-on experience with popular AI tools and frameworks