SURASAK KAEWPHO

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SUMMARY

I am a Research Assistant with experience in developing software to control mechanical devices and automate analysis in laboratory. I have skills in modern web frameworks and am looking to transition into a full-time web development role. I have worked on personal projects that include membership systems, booking, payment systems, dashboards, and connecting to both SQL and NoSQL databases, AWS S3 cloud storage services. The main stacks I use are Next.js/React.js, TypeScript, Tailwindcss, Node.js, Express.js, and Python. My work focuses on problem-solving to achieve desired results with any technologies, as I can quickly learn new tools and technologies. I enjoy applying my knowledge to build new products that enhance efficiency in development and streamline future projects.

PERSONAL PROJECT

- WINWIN : PWA for exchanging second-hand items platform. It has a concept like “Tinder”—match and exchange. It uses PostgreSQL and AWS S3.
- Hotel : PWA example for booking rooms with an admin system. It uses MongoDB and the Stripe payment gateway.
- Diary : PWA for recording your stories. It integrates AI (Gemini) to recommend life tips and encourage you every day.
- Snack : PWA that helps you compare product prices per unit.
- CapLink : PWA for shortening your URLs.
- Authenticator : PWA and library that I developed for two-factor authentication. It generates dynamic passwords like “Google Authenticator.”
- Sticky Note : PWA for short notes. You can add hashtags or change the paper color. It functions as a CRUD system.
- Other projects both frontend and backend you can view in my portfolio website and GitHub in the head of resume.

JOB EXPERIENCE

Research Assistant 2562 – 2567
Kasetsart university

- Use Next.js to develop the GUI and develop the APIs for control the machine by python.
- Use Python to simulate the physical phenomena of the diffraction image by reflection from the reflector.
- Use Python to simulate the ray tracing in 3D to study the behavior of the image by diffusion and reflection and derive the formula for measuring the height of the surface.
- Use Python to simulate the distorted image by the real dimension of the optical lens.
- Reverse engineer of the algorithm for measuring the angle in industrial factory.
- Design and build the prototype of a high-resolution angle measurement tool.
- Design a mathematical model for measuring the height profile in 3D.
- Estimate the uncertainty of measurement with the Monte Carlo simulation.
- Derive the mathematical model for simulating the diffraction image by many surfaces.

EDUCATION

Bachelor of Science, Physics 2558 – 2562
Kasetsart university

ACHIEVEMENTS

Exact solution of cosine 1 degree
use advanced mathematics to derive the exact solution of cosine 1 degree.

200% improve speed of numerical simulation in python
refactor algorithm into complex numbers, stack the reuse data in memory (RAM), and parallel processing.

Public Journal of Physics
conference series of Siam Physics Congress 2022 (An application of autocollimator for strip surface profile Measurement)

SKILLS

Languages
- HTML, CSS, JavaScript
- TypeScript
- Node.js
- SQL
- Python
- Fortran, Wolfram

Frameworks
- Next.js, React.js
- Tailwindcss
- Express.js

Tools
- PostgreSQL, MongoDB
- Redux toolkit
- Postman
- GitHub
- Docker
- VScode

Operating Systems
- Windows, MacOS

STRENGTHS

- Self-learning
- Information retrieval
- Problem solving
- Systematic Thinking