

Surasak Kaewpho

Phone: (+66)929124025

Email: surasak.kwork@gmail.com

GitHub: <https://github.com/Geeleed>

Portfolio: <https://portfolio-next-v2-omega.vercel.app>

Address: Phaholyothin 30 chankasem chatuchak Bangkok 10900

Objective

To transition from a research assistant in physics and metrology to software developer.

Summary

Experienced Research Assistant specializing in optical and laser alignment, the theory of wave and optics, and the development of non-contact high-resolution dimension measurement, with over 5 years of experience. Proficient in calibrating measurement instruments, analyzing data with programming languages, and developing software for automated measurement processes. Expertise in mathematical modeling and uncertainty evaluation with Monte Carlo simulations in complex measurements. Additionally, skilled in intermediate web development and advanced programming.

Experience

Research assistant

Department of Physics, faculty of science, Kasetsart university

Ladyao, Chatuchak, Bangkok 10900, Thailand

January 2019 – Present

- Developed a non-contact high-resolution measurement system to measure the dimension and tilt angle of submillimeter surfaces using low-cost optical components.
- Evaluated uncertainties of calibrations and measurements.
- Analyzed data and measurement results using programming languages (Python and Wolfram).
- Calibrated and validated measurement instruments.
- Developed software (frontend GUI and backend API processes) to control and automate analysis results in machines.
- Developed mathematical models and simulation software to evaluate the uncertainty of complex measurements.
- Collaborated with the R&D engineering team at Western Digital Storage Technologies Thailand to improve production processes.

Cooperative student

Western Digital Storage Technologies (Thailand) Ltd.

Klongjig, BangPa-in Ayutthaya 13160, Thailand

August 2018 – January 2019

- Improved the success rate of ABS perpendicularity measurement using a new method of image processing.
- Reverse-engineered** the algorithm of an angle measurement machine to implement a new algorithm measurement process.
- Developed mathematical models to describe the causes of measurement problems, enhancing the accuracy and success rate of measurements.

Personal App Projects

- WINWIN** – A second-hand item exchange platform inspired by the Tinder app. It allows users to exchange items without payment.
- Diary App** – A PWA for daily life stories. It integrates Gemini AI for recommendations and cheer-up messages.
- CapLink** – A web app for shortening URLs.
- Snack** – A mini PWA for comparing the worth of goods. It can be installed as an app for offline use.

Technical Skills

- Advanced** in Python, Wolfram
- Intermediate** Frontend development (HTML, CSS/**Tailwind CSS**, JavaScript, **TypeScript**, **React.js**, **Next.js**)
- Intermediate** APIs and backend development (Python, **Node.js**, Next.js, Docker, Postman)
- Basic** database tools (SQL, Prisma, PostgreSQL, MongoDB, AWS S3)
- Basic** microcontroller, machine learning and computer vision programming
- Version control Git/GitHub
- Instrument calibration
- Dimensional metrology and optical measurement techniques
- Knowledge of ISO/IEC 17025:2017 standards
- Monte Carlo and Numerical simulations
- Image processing and data analysis using programming languages

Soft Skills

- Lifelong self-learning
- Systematic thinking
- Information retrieval and critical thinking
- Growth mindset
- Adaptability
- Geek**

Education

Bachelor of Science in Physics

Department of Physics, faculty of science, Kasetsart university

Ladyao, Chatuchak, Bangkok 10900, Thailand

August 2015 – May 2019