

Phornsawan Roemsri (MinMin)

Lubbock, TX | phornsawan.roemsri@ttu.edu | linkedin.com/in/phornsawan-roemsri | github.com/pyppr | phornsawan-roemsri.com

SUMMARY

Computer Science Ph.D. candidate (defense Oct. 2026) with eight first-author peer-reviewed publications in cybersecurity and data visualization. Builds end-to-end systems in Python, TypeScript, and SQL: network traffic classification and anomaly detection, HPC monitoring and job-outcome prediction, and interactive visual analytics in D3.js and React.

EDUCATION

Texas Tech University

Expected Dec. 2026

Doctor of Philosophy, Computer Science | Lubbock, TX | GPA: 4.00

Dissertation: *Data-Driven Cybersecurity for Connected Devices: Traffic, Provenance, and Behavioral Threat Detection*

Mahidol University

2019

Bachelor of Engineering, Computer Engineering | Bangkok, Thailand | GPA: 3.90

AWARDS

- **Best Presentation, Session 3** — 2025 4th Asia-Pacific Computer Technologies Conference (APCT 2025), Bangkok, Thailand, Jan. 2025.
- **The Engineering Student Talent Award, first runner-up** — Jun. 2017. Selected to one of the teams representing Thailand at the ASEAN programme in India.

PUBLICATIONS

Eight peer-reviewed publications, six full papers and two short papers. First author on all eight.

1. **Roemsri, P.**, McCarver, A., Maccarone, T., Shaw, A. W., Gandhi, P., Kaplan, D., & Dang, T. (2026). A web-based interactive visualization tool for astronomical time series. *AIP Conference Proceedings*, 3378(1), 040001. <https://doi.org/10.1063/5.0306001>
2. **Roemsri, P.**, Ribeiro, A. H., & Dang, T. (2025). PowerMap and time-indexed PCA trajectories: Interactive visual forensics for HPC incidents. *Int. Conf. in Cybersecurity, IoT, Data Science, and Digital Forensics (CIDDF)*, 178-197. Springer. https://doi.org/10.1007/978-3-032-19488-6_12
3. **Roemsri, P.**, & Dang, T. (2023). Visualization of attack behavior data in IoT network traffic. *Int. Conf. on Big-data Service and Intelligent Computation (BDSIC)*, 1-8. <https://doi.org/10.1145/3633624.3633625>
4. **Roemsri, P.**, Puangpontip, S., & Hewett, R. (2023). On detecting crypto ransomware attacks: Can simple strategies be effective? *Int. Conf. on Information and Computer Technologies (ICICT)*, 138-143. <https://doi.org/10.1109/ICICT58900.2023.00030>
5. **Roemsri, P.**, & Hewett, R. (2021). Device identification for IoT security. *IEEE Int. Conf. on Signal and Image Processing (ICSIP)*, 866-870. <https://doi.org/10.1109/ICSIP52628.2021.9688598>
6. **Roemsri, P.**, & Hewett, R. (2020). Provenance location-based authentication in cloud computing. *Int. Conf. on Advances in Information Technology (IAIT)*, Article 24, 1-8. <https://doi.org/10.1145/3406601.3406629>
7. **Roemsri, P.**, & Dang, T. (2023). An interactive multi-degree analysis approach (short paper). *IEEE VAST Challenge*, 9-10. <https://doi.org/10.1109/VASTChallenge60523.2023.00010>
8. **Roemsri, P.**, & Dang, T. (2023). Effective dynamic network layout for transaction analysis (short paper). *IEEE VAST Challenge*, 7-8. <https://doi.org/10.1109/VASTChallenge60523.2023.00009>

TECHNICAL SKILLS

Languages: Python | TypeScript | JavaScript | SQL | R | HTML/CSS

Data and ML: machine learning for classification | anomaly detection | time-series analysis | data visualization

Web and visualization: D3.js | React | Next.js | FastAPI | Electron

Systems: Linux | Slurm/HPC | MySQL | SQL Server | Git | LaTeX

Security: network traffic analysis | device fingerprinting | ransomware detection | provenance authentication

RESEARCH AND TECHNICAL EXPERIENCE

Graduate Research / Teaching Assistant

2020 – Present

Texas Tech University, Lubbock, TX

- Built the monitoring and visual analytics web application for the REPACSS HPC cluster, **110 CPU and 8 GPU nodes**, ingesting Slurm job state, node telemetry, and power draw for job-outcome prediction and operational forensics.
- **Traced a cluster-wide thermal incident to the single user account** whose jobs caused it, in a published case study (PowerMap and time-indexed PCA trajectories).
- Developed a JWST NIRCcam photometry and frame-quality pipeline (program PID 1666) that flags degraded frames automatically, producing **eclipse-timing measurements** for an astronomy collaboration and a published conference paper.
- Delivered the rigid pavement technical support platform for TxDOT Research Project O-7147 (Phase III), rebuilding the TxCRCP-ME design engine from a legacy Electron/Excel system into a Next.js application with interactive dashboards and geospatial performance analytics.
- Designed interactive visual analytics tools in D3.js and React for IoT attack-behavior data, letting analysts trace multi-stage attack sequences that summary statistics obscured.
- Engineered passive traffic-fingerprinting and behavioral detection methods for IoT device identification and crypto ransomware — **0.91 detection accuracy at a 0.08 false-alarm rate** from simple thresholds — published across four peer-reviewed conferences.
- Taught as graduate teaching assistant for graduate and undergraduate courses in operating systems and parallel programming, covering two courses at once in Spring 2025.

Intern

2018 – 2019

ExxonMobil Thailand, Bangkok, Thailand

- Delivered two to three small web applications with a teammate and built the first prototype of a smart locker the company planned to adopt company-wide.

PROJECTS

phornsawan-roemsri.com — bilingual personal site and planning system

2026

- Next.js static export on a Cloudflare Worker, with a D1 (SQLite) content database and one generic table API behind every admin screen; bilingual at separate URLs, WCAG AA contrast enforced by a build-time checker, and packaged as an Android app with Capacitor.

LANGUAGES

Thai (native) | English (professional working proficiency)