

# Pithayuth (Will) Charnsethikul

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## SUMMARY

Computer Science researcher with 5+ years of experience specializing in Data Science, AI, and Security & Privacy. Strong track record in quantitative methods, statistical analysis, and predictive modeling using ML, NLP, and LLM/GenAI. Proven real-world impact at leading tech companies including Amazon, PayPal, and AT&T, delivering production-ready, data-driven solutions across diverse domains such as business, operations, and systems.

## EXPERIENCE

<b>Applied Scientist Intern</b> <i>Amazon Business Data Analytics and Insights (ABDAI)</i>	June 2025 – Aug 2025 Seattle, Washington
<ul style="list-style-type: none"><li>Design and apply prompt engineering strategies for LLMs to generate entity resolution datasets of 6M+ records</li><li>Develop and evaluate deep learning models with 1M+ parameters that predict whether two businesses belong to the same entity</li><li>Apply locality-sensitive hashing (LSH) to reduce the entity resolution search space by 80%</li></ul>	
<b>Cybersecurity Research Scientist Intern</b> <i>PayPal Fraud Science &amp; Intelligence, Global Investigations</i>	June 2024 – Aug 2024 Scottsdale, Arizona
<ul style="list-style-type: none"><li>Develop a fuzzy hashing-based approach to cluster and detect 2M+ automatically generated online-shopping scams</li><li>Conduct a longitudinal analysis over 15 years, showing a 500% growth in scam automation</li><li>Perform cost analyses showing that our detection could save \$4M+ from automated online-shopping scams</li></ul>	
<b>Applied Scientist Intern</b> <i>Amazon SCOT-IPC: Specialized Selection</i>	May 2023 – Aug 2023 Bellevue, Washington
<ul style="list-style-type: none"><li>Analyze 100M+ customer search and shopping records, focusing on shopping cart abandonment</li><li>Examine 20+ factors influencing cart abandonment, including cart size, pricing, and free-shipping thresholds</li><li>Develop and evaluate deep learning models with 100K+ parameters that predict the shopping cart abandonment probability</li></ul>	
<b>Technical Intern II</b> <i>AT&amp;T Labs Research</i>	June 2022 – Aug 2022 Middletown, New Jersey
<ul style="list-style-type: none"><li>Develop a real-time data collection pipeline for DNS-over-TLS (DoT) and DNS-over-HTTPS (DoH) traffic handling 10M+ RPS</li><li>Implement large-scale code across 12 DNS servers to extract session IDs and user-agents from DoT/DoH queries</li><li>Build ML models (regression, Naive Bayes, SVM, decision trees) using 30+ features to predict malicious DoT/DoH traffic</li></ul>	
<b>Research Assistant</b> <i>USC Information Sciences Institute (ISI)</i>	August 2021 – May 2026 Marina Del Rey, California
<ul style="list-style-type: none"><li>Build an LLM-based chatbot that successfully fools 72% of scammers using advanced prompt engineering [1]</li><li>Fine-tune BERT-based models to identify 35M+ sensitive Venmo transactions affecting 8M+ users [2]</li><li>Conduct user studies evaluating privacy settings on social media and LLM platforms, showing that 80% of users struggle [3]</li><li>Replicate a password manager (PM) study at a university, exposing only 15% adoption of a free PM, contrary to prior finding [4]</li><li>Design user interface on the national research testbed SPHERE serving 100+ research and 1K+ education users</li><li>Implement server code for DDoS anomaly detection and DNS latency measurement over TCP [5, 6, 7]</li></ul>	

## EDUCATION

<b>University of Southern California</b> <i>Ph.D. in Computer Science, Advisor: Jelena Mirkovic</i>	Los Angeles, California Aug 2021 – May 2026
<b>University of Southern California</b> <i>M.S. in Computer Science, Specialization: Computer Networks</i>	Los Angeles, California Aug 2019 – May 2021
<b>Kasetsart University</b> <i>B.Eng. in Computer Engineering</i>	Bangkok, Thailand Aug 2014 – May 2018

## PUBLICATIONS

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- [1] *Pithayuth Charnsethikul*, Jelena Mirkovic, Rishit Saiya, Jeffrey Liu, Benjamin Crotty, and Genevieve Bartlett. “**Puppeteer: An Automated Scambaiting System Leveraging LLMs**”. In: *Proceedings of the Hawaii International Conference on System Sciences (HICSS)* 2025. [LINK](#).
- [2] Rajat Tandon, *Pithayuth Charnsethikul*, Ishank Arora, Dhiraj Murthy, and Jelena Mirkovic. “**I know what you did on Venmo: Discovering privacy leaks in mobile social payments**”. In: *Proceedings on Privacy Enhancing Technologies (PoPETs)* 2022. **Acceptance Rate : 21.02% (33/157)**. [LINK](#).
- [3] *Pithayuth Charnsethikul*, Almajd Zunquti, Gale Lucas, and Jelena Mirkovic. “**Navigating Social Media Privacy: Awareness, Preferences, and Discoverability**”. In: *Proceedings on Privacy Enhancing Technologies (PoPETs)* 2025. **Acceptance Rate : 20.00% (45/225)**. **Artifact Award (Runner-up)**. [LINK](#).
- [4] *Pithayuth Charnsethikul*, Anushka Fattepurkar, Dipsy Desai, Gale Lucas, and Jelena Mirkovic. “**Replication: A Study on How Users (Don't) Use Password Managers**”. In: *Proceedings of Symposium on Usable Security and Privacy (USEC)* 2026. **Acceptance Rate : 33.85% (22/65)**. [LINK](#).
- [5] Giovane C. M. Moura, John Heidemann, Wes Hardaker, *Pithayuth Charnsethikul*, Jeroen Bulten, João M. Ceron, and Cristian Hesselman. “**Old but Gold: Prospecting TCP to Engineer and Live Monitor DNS Anycast**”. In: *Passive and Active Measurement (PAM)* 2022. **Best Paper Award**. [LINK](#).
- [6] Rajat Tandon, *Pithayuth Charnsethikul*, Michalis Kallitsis, and Jelena Mirkovic. “**AMON-SENSS: Scalable and Accurate Detection of Volumetric DDoS Attacks at ISPs**”. In: *Proceedings of the IEEE Global Communications Conference (GLOBECOM)* 2022. [LINK](#).
- [7] Rajat Tandon, Jelena Mirkovic, and *Pithayuth Charnsethikul*. “**Quantifying Cloud Misbehavior**”. In: *Proceedings of the IEEE 9th International Conference on Cloud Networking (CloudNet)* 2020. [LINK](#).

## TECHNICAL SKILLS

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- **Languages:** Python, C, C++, Bash, HTML, CSS, PHP, JavaScript, Typescript, SQL, JAVA, Perl,  $\text{\LaTeX}$
- **Frameworks:** scikit-learn, PyTorch, Torch, TensorFlow, Keras, Huggingface, Angular, Node.js, Spark
- **Packages and Tools:** NumPy, Pandas, Jupyter Notebook, SciPy, Git, Docker, MySQL, BigQuery
- **Platforms:** Linux, macOS, Windows, Arduino, Raspberry, GCP, Azure, AWS
- **User Studies:** Qualtrics, Google Forms, Prolific, MTurk
- **Statistical Analysis:** SPSS, Regressions, Correlations, ANOVA, T-Tests, Chi-Square
- **Networking:** tcpdump, Wireshark, Nmap, Knot DNS, dnsdist, urlscan

## GRADUATE COURSEWORK

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Advanced Analysis of Algorithms, Applied Cryptography, Foundations of Artificial Intelligence, Machine Learning, Advanced Natural Language Processing, Robustness and Generalization in Natural Language Processing, Advanced Operating Systems, Advanced Computer Networking, Security Systems, Research Methods and Analysis for User Studies

## SERVICES

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Program Committee      ACSAC Workshop on Cyber Security Experimentation and Test (CSET'25)

## TEACHING EXPERIENCE

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Teaching Assistant      CSCI 567: Machine learning (Spring 2023)  
Teaching Assistant      CSCI 430: Introduction to Computer and Network Security (Fall 2023 – Spring 2025)

## CERTIFICATIONS

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- Deep Learning Specialization by DeepLearning.AI, Coursera