Zeyu Lei

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PROFILE

6 years of experience in Security Research and Software Engineering. Passionate about problem solving using first principles. Founded and scaled an AI startup product from 0 to 60,000+ active users. Share AI technology insights and data-driven analyses with 7,500+ followers on X (formerly Twitter). First author of 2 research papers published in top-tier computer science conferences.

EDUCATION

Purdue University – West Lafayette, IN   **Aug 2019 – Expected July 2025**
Ph.D. in Computer Science

University of Iowa – Iowa City, IA   **Aug 2015 – May 2019**
BA in Computer Science

PUBLICATIONS

ScopeVerif: Analyzing the Security of Android's Scoped Storage via Differential Analysis
Zeyu Lei, Güliz Seray Tuncay, Beatrice Carissa Williem, Z. Berkay Celik, and Antonio Bianchi
Proceedings of the Network and Distributed System Security Symposium (NDSS), 2025

On the Insecurity of SMS One-Time Password Messages against Local Attackers in Modern Mobile Devices
Zeyu Lei, Yuhong Nan, Yanick Fratantonio, and Antonio Bianchi
Proceedings of the Network and Distributed System Security Symposium (NDSS), 2021

PROFESSIONAL EXPERIENCE

Purdue University - Graduate Research Assistant   **Aug 2019 - Present**
- Developed a scalable, cloud-based static analysis framework for millions of apps, identifying critical security vulnerabilities in SMS authentication for popular apps such as Telegram and KakaoTalk, affecting over 133 million installations.
- Collaborated with Google to develop an automated tool for verifying scoped storage on the latest Android, discovering 10 previously unknown issues, including high-severity vulnerabilities, and receiving a $7,000 bug bounty offer from Google.
- Collaborated with Apple to validate the implementation of mDL in Apple Wallet, leveraging LLM technology to identify two vulnerabilities, assist in their resolution, and enhance usability for millions of users across six states.
- Contributed to the PurSec lab's collaboration with Google, earning the Google ASPIRE Award for three consecutive years and delivered a talk on "Security Analysis of Three Emerging Pieces of Android OS" to the ASPIRE team at Google.

Trasen Science & Technology Ltd. - Software Engineer   **Aug 2020 - Aug 2021**
- Discovered a critical vulnerability in the internal employee system that allowed unauthorized password resets for over 1,000 employees, preventing potential leaks of company trade secrets and prompting a comprehensive security protocol redesign.
- Developed a security framework by encapsulating security-related algorithms, protocols, and critical business workflows, safeguarding core operations and boosting development efficiency across multiple departments.
- Led an R&D team to develop a no-code microservices platform that generated efficient, multi-language backend code from standardized flowchart designs, collaborating with multiple departments on internal deployment and product iterations.
- Collaborated with the investment department as a technical consultant, providing key technical insights that enabled more strategic and advantageous negotiations for an international acquisition.

PROJECTS

- **AI Video Summarization** | Led a startup team of four in developing and maintaining a video summarization application. Utilized AWS Serverless Lambda to build a scalable backend, scaling from 0 to 60,000+ active users across the [Chrome Web Store](#), [Edge Add-ons Store](#), [Web App](#), and [Chatbot](#).
- **Data Analysis on AI Technologies** | Sharing data analyses of AI technologies on [X (formerly Twitter)](#), using LLMs to analyze posts for insights on user sentiment, product pros and cons, and financial predictions. Achieved over 5M impressions in three months while engaging with an audience of 7,500+ followers.

SKILLS

- **Expertise**: Cybersecurity, Automation, Distributed Systems, Formal Methods, Software Analysis (SAST/DAST)
- **Programming Languages:** Python, Java, Kotlin, C/C++, Go, Rust, SQL, JavaScript, HTML
- **Tools:** Ghidra, Xposed, Frida, GDB, ProVerif, Kubernetes, Docker, Bash, Git, MySQL, AWS, GCP
- **Other:** Data Analysis, Prompt Engineering, Reverse Engineering, Software Engineering, Machine Learning