

# Ljosh (Alexei) Kremliovsky

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## Personal Profile

Current Cyber Futures Intern, Applied Math B.S. major at UC Santa Barbara with a minor in German. Google Cybersecurity Certificate holder. Work experience in sustainable agriculture as well as hydroponic technology.

## Internship Experience

### *Cyber Futures Intern (June 2024)*

- Computer Networking, Linux fundamentals, Windows OS fundamentals, Unix training, Cryptography, Intro to ATT&CK, Threat Hunting, CTI, Risk Management, Malware, Reverse Engineering, Digital Forensics
- MITRE Caldera Training, adversary emulation practice with a made-up APT

### *Individual Contributor (June-August 2024)*

- Researching Bluetooth specifications and Command Line tools (hcitool, hciconfig, BlueZ), layers of Bluetooth stack, Remote ID ASTM Standards, investigating existing code (Open Drone ID Core C Library)
- Investigated Bluetooth RSSI-based location detection with triangulation as well as Wi-Fi-based Positioning Systems (WPS)
- Wrote my own Command-Line Interface to interact with the deprecated/inefficient Bluetooth libraries to quickly extract pertinent information from kernel-library logs and reformat results into JSON and TXT files. Features of the CLI include, but aren't limited to, nearby drone detection, device identification, RSSI matching, manufacturer/LE Address identification.
- Researched Bluetooth dongles to identify packet sniffing capabilities and Wireshark Bluetooth documentation

## Experience

AI for Predictive Analytics (MITRE Learning track) Summer 2024  
Introduction to ML, Pandas Library, Linear and Logistic Regression, Feature Engineering, model/dataset Evaluation

Directed Reading Program – UCSB Mathematics mentoring program (grad/jr faculty- undergrad pairing) Dec 2023 – Mar 2024  
RSA, Shor's Algorithm, Quantum and Post-Quantum Cryptography

- Read Ray LaPierre's "Introduction to Quantum Computing," researching, and reporting findings to a math group of graduate/undergraduate students on a weekly basis
- Discussed Post-Quantum Algorithms and NIST recommendations, such as lattice-based Post-Quantum Algorithms
- Created, then presented a poster explaining in detail RSA and Shor's Algorithm at the Corwin Pavilion at UCSB. Poster currently displayed in South Hall by the math department

Girvetz Graduate School of Education, UCSB, Research Assistant for Travis Candieas Dec 2023 – Mar 2024

Topic modeling, data-sorting automation with Python, data visualization models

- Asked to do manual data-sorting, instead created Python scripts to automate sorting, encoding, and labeling of large datasets.
- Created instructional videos of how to use my Python scripts in command line to generate correct datasets
- Researched and reporting how to perform good Topic-Modeling, identifying stop-words in qualitative datasets such as interviews

iCTF by SBhacks – Cybersecurity capture-the-flag-style competition December 2023

AI-themed CTF. Challenges with LLMs, python automation, data science, tokenization, steganography

- Worked on finding Least Significant Bits in a photo and identifying color patterns to eliminate RGB bits to create a coherent message
- Wrote a program that uses Markov chains to find an original flag a dataset of fake flags was generated from
- Prompt-engineered a vulnerability-reporting LLM to gain access to internal file directories

Personal NLP project with TensorFlow Summer 2023

Word predictor based on Ukrainian translated version of George Orwell's 1984 as dataset

- Completed a 10 hour TensorFlow course on YouTube
- With guidance from YouTube course, made a linear equation predicting model
- Created a word predictor based on Markov Chains to predict the next word in a sentence in Ukrainian

Google Cybersecurity Professional Certificate

Summer 2023

Coursera-based Google Career Certificate

- Completed an 8-course series designed for beginners in cybersecurity
- Participated in activities, watched videos, and created a studybook for the Security+ exam
- Introduced to the following topics: Network security, TCP/IP, Cloud Networks, INFOSEC, NIST Risk Management Framework, NIST CSF, SQL, Authentication, IDS and SIEM tools, Python automation

Private Math tutor, Chess Instructor at OctoClub Family Center

2020-2023

Experience teaching kids from elementary to high school

- Tutored privately kids of various levels from 5<sup>th</sup> grade Common Core all the way to high school Calculus
- Taught in Russian elementary-aged kids at OctoClub chess rules, strategies, and problem-solving

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## Languages

Russian (native), English (native), Spanish (conversational), German (conversational)

UCSB Coursework

Physics: Quantum Mechanics, Physics

Computer Science: graduate-level Cybersecurity course, Python

Mathematics: Analysis, Linear Algebra (all the undergraduate classes), Differential Equations, Introductory Discrete Math class, and Statistics.

Other: Completed all of the higher-level German language coursework at my University.

## Education

University of California Santa Barbara • Santa Barbara, California

September 2022 – Present

*Bachelors of Science, Applied Mathematics • Minor, German*

## Areas of Interest

Quantum/Post-Quantum Cryptography, AI/ML/NLP applications in Cybersecurity/Infrastructure, Signal Processing