Nefeli Georgilas

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Education

University of Nevada, Las Vegas — Las Vegas, NV
Master of Science in Cybersecurity (GPA: 4.0 / 4.0) — *Jan 2026 – Dec 2026 (Expected)*

- **Research Focus**: State-aware analysis of desynchronization vulnerabilities in the PX4 flight stack

University of Nevada, Las Vegas — Las Vegas, NV
Bachelor of Science in Computer Science — *Aug 2023 – Dec 2025*

Technical Skills

Technologies & Systems: C++, C, Python, x86 Assembly, RTOS, MAVLink protocol, Linux Kernel
Tools: Ghidra, Binary Ninja, Address Sanitizer, AWS

Research Experience

Real-Time Intelligent Systems (RTIS) Lab – UNLV & NNSS — Las Vegas, NV
Research Assistant (Under Dr. Brendan Morris) — *May 2026 – Present*

- Evaluate and benchmark classical and SOTA machine learning approaches.
- Conduct comprehensive literature reviews.
- Create and maintain a real-time sensor fusion pipeline.

UNLV & Department of Energy — Las Vegas, NV
Research Assistant (Under Dr. Tessler and Dr. Modekurthy) — *Dec 2025 – Aug 2026*

- Independently conduct vulnerability research on PX4 Autopilot, including the MAVLink protocol and NuttX RTOS.
- Analyze performance and usability metrics of the Starling 2 Max GPS-denied development drone and VOXL 2.
- Present 40-minute technical briefings on topics including Policy-Guided Fuzzing (PGFuzz) and Exploit Pathology (Lancet).

Presentations

Cyber Lunch and Learn — Las Vegas, NV
Speaker — *Oct 2026*

- Presented *How Do Machines Find Vulnerabilities? Dissecting an Exploit.*

DEF CON 34 Aerospace Village — Las Vegas, NV
Speaker — *Aug 2026*

- Presented *Racing PX4: Memory Corruption and Timing Vulnerabilities.*

Vulnerability Disclosures

eProsima Fast-DDS (ROS 2 default middleware)
Heap Buffer Overflow – Patch Bypass — *2026*

- Reported a bypass of the official patch for CVE-2025-62799, triggerable remotely over UDP.
- Coordinated disclosure in progress; backport pending.

LibEtPan
Memory Leak – Denial of Service — *2026*

- Memory leak in `mailimap_acl_listrights` leading to Denial-of-Service; commit `927225b`.

PX4 Autopilot
State Desynchronization – Denial of Service — *2026*

- Discovered a state desynchronization flaw in the MAVLink logging subsystem (`MavlinkULog`) resulting in Denial-of-Service.

Teaching Experience

University of Nevada, Las Vegas — Las Vegas, NV
Incoming Part-Time Instructor of Record — *Spring 2027*

- Design 16-week graduate-level course content for **CSEC 722: Trusted Software Systems**.
- Create CTF-style challenges, lectures, and projects to teach reverse engineering, fuzzing, and symbolic execution.

University of Nevada, Las Vegas — Las Vegas, NV
CTF Team Lead — *Mar 2025 – Dec 2025*

- Led technical training sessions on reverse engineering, binary exploitation, and forensics for a core team of 6 students.
- Authored a "Guide to Binary Exploitation" adopted by Layer Zero to train 800+ members in memory corruption techniques and exploit development.

University of Illinois, Chicago (Capture the Flame) — Remote
Challenge Creator & Board Member — *Feb 2025 – Present*

- Design binary exploitation challenges across Beginner and Advanced tracks, spanning simple buffer overflows, format strings, and Sigreturn-Oriented Programming (SROP) exploits.

Grants

UpToStudy — Engelstad Foundation
Co-Founder — *Dec 2023 – Present*

- Manage a $150,000 Big Idea Challenge Grant to fund a centralized educational application.
- Direct foundational project architecture, manage seasonal hiring lifecycles, and conduct comprehensive code reviews.
- Mentor an apprentice to independently perform security audits and author vulnerability reports.

Awards, Competitions & Certifications

Competitions & Honors:

- C2Society CTF (1st Place, Mar 2026)
- NCAE Regionals (1st Place, Mar 2026)
- Gasparilla CTF (1st Place, Jan 2026)
- DC207 Hacksgiving CTF (2nd Place, Nov 2025)
- Dean's List (Dec 2025)

Certifications:

- Splunk Core Certified Power User (Aug 2026)
- Practical Junior Penetration Tester (PJPT, TCM Security — Feb 2026)
- FAA Part 107 Remote Pilot (sUAS — Dec 2025)
- AWS Certified Cloud Practitioner (Oct 2025)