Jack DeAngelis

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EDUCATION

Boise State University — **Boise, ID**
B.S. in Computer Science — Expected May 2029

EXPERIENCE

ByteDance — **San Jose, CA**
Security Software Engineer Intern — Network Security (Volcano Engine / BytePlus) — May – Aug 2026

- Built and shipped **behavioral detection for AI-operated browsers** (OpenClaw, Perplexity Comet) using client-side behavioral signals.
- Extended the client-side SDK to collect new behavioral signals and built the pipeline that scores them for detection.
- Reverse engineered internal SDKs to surface weaknesses in anti-bot, CAPTCHA, and device-fingerprinting mechanisms.
- Expanded browser-fingerprint collection by **12 signal groups**, vetting each candidate against real Chrome builds and headless.
- Reverse engineered competitor anti-bot SDKs to map what leading vendors collect and prioritize which detections to build.

Independent Security Researcher — **Remote**
Offensive Security & Reverse Engineering — Dec 2023 – Present

- Analyzed industry-grade anti-bot systems from **Akamai, OpenAI, TikTok, and Castle.io**, breaking down VM-based obfuscation, proof-of-work, and client-side fingerprinting.
- Mobile SDK reversing with **Frida and JADX**, including SSL pinning bypass and payload schema analysis.
- Open-sourced working deobfuscators and payload generators.

PROJECTS

ML Bot Classifier — **PyTorch, Python, Flask**
Neural-network bot detection

- Trained a PyTorch neural network to score traffic as bot-likely on a spectrum rather than a binary rule verdict, and served it through a Flask app for live classification.

Automation Blog — **JavaScript, Python, Go**
Anti-bot research & reverse engineering · *autodev.blog*

- Technical writeups on major anti-bot vendors, each paired with working open-source code on GitHub.
- Covers string-array deobfuscation, Map-based virtual machines, and sensor payload schema analysis.

Anti-Bot Simulator — **Python, Flask, JavaScript**
Full-stack bot detection system

- Built a multi-layer bot detection system end to end: vanilla-JS client-side signal collection with a Flask risk-scoring backend.

SKILLS

Languages: Python, JavaScript, Go
Security & tooling: Frida, JADX, Burp Suite, mitmproxy, Git/GitHub; client-side fingerprinting, behavioral detection, JS deobfuscation & VM devirtualization
Foundations: HTTP, TLS, browser internals, WAF / bot-management systems