

Andre Cura

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SUMMARY

- A fourth-year undergraduate student at the University of Toronto with a major in Mental Health Studies and a minor in Computer Science.
- A software developer with experience in fullstack web development and mobile development.
- An award-winning CTF player with experience in reverse engineering and binary exploitation.
- An aspiring cybersecurity professional with experience in vulnerability research.

TECHNICAL SKILLS

Languages: Python, C/C++, SQL, JavaScript, TypeScript, HTML/CSS

Frameworks: angr, React, React Native, Expo, Node.js, NestJS, Express.js

Developer Tools: Git, Jira, Docker, AWS EC2, Visual Studio Code, Ghidra, GDB, x64dbg

Libraries: angr, pwntools, z3

EXPERIENCE

Vulnerability Research Intern

January 2024 – August 2024

Trend Micro

Toronto, ON

- Conducted research on newly-found vulnerabilities, found root causes, and developed proof-of-concept exploits
- Wrote Snort signatures to detect exploits
- Fuzzed applications using AFL and WinAFL, and analyzed crashes using WinDbg and DynamoRIO
- Contributed to automating the process of finding link following vulnerabilities in privileged Windows applications
- Analyzed file operations of system-level processes using Process Monitor
- Wrote rules for detection of applications installed in Linux and Windows systems

Software Developer

June 2021 – September 2022

Tasttlig Corporation

Toronto, ON

- Created a new version of the company's fullstack web application using NestJS, GraphQL, TypeORM, and React with TypeScript
- Updated and maintained a mobile application built with React Native and Expo
- Discovered, reported, and fixed two security vulnerabilities in the payment workflow of the festival web application

EXTRA-CURRICULARS

University of Toronto Capture the Flag (UofTCTF)

Toronto, ON

Capture the Flag (CTF) Player

November 2021 – Present

- Participated in CTF competitions, with UofTCTF, and won multiple times in 2024
- Solved challenges using Python, C/C++, and shell scripting
- Reverse engineered binaries using Ghidra, along with angr for binary analysis, and z3 for solving constraints
- Exploited memory corruption vulnerabilities in binaries
- Reverse engineered virtual machine implementations
- Achieved 2nd place in Toronto Region for the CyberSci Regional Qualifiers 2023-24
- Achieved 2nd place in the leaderboard for undergraduate teams for picoCTF 2023

Secretary of UofTCTF

October 2022 – Present

- Wrote challenges for UofTCTF 2023 and 2024
- Taught new members how to use tools and resources to solve CTF challenges
- Organized and hosted CTF practice sessions
- Crafted an eval injection sandbox escape exploit for PCRS: CVE-2023-46404

EDUCATION

University of Toronto

Toronto, ON

HBS Life Sciences, Major in Mental Health Studies, Minor in Computer Science

September 2020 – August 2025

Azure Fundamentals

Microsoft

September 2022

Security, Compliance, and Identity Fundamentals

Microsoft

November 2022