Zhiqi (Birkhoff) Cheng
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Academic/Education/Interest

- **Internship at Chinese Academy of Science UAV & robotics program (Grade 10)**
  Develop controlling software in C/C++ for Unmanned Aerial Vehicle (quad-rotor drones).
  Conduct simulation of existing software's performance on UAV.
  Develop programs for simple robotic tasks.

- **Research about NSA hacking, surveillance, and WannaCry ransomware (Grade 10)**
  Downloaded the WannaCry ransomware sample, analyzed its behavior and exploits used, and wrote a conclusion essay about how NSA hacking and surveillance led to the occurrence of this virus.

- **Research and speech about encryption and backdoors. (Grade 11)**
  Conducted research and study on the controversy about encryption and backdoors, conflict between law enforcement and unbreakable encryption. Gave a speech at school promoting encryption and online privacy.

- **Developing USB Rubber Ducky payload (Grade 11)**

  Project #1:
  https://github.com/hak5darren/USB-Rubber-Ducky/wiki/Linux-and-OSX-sudo-password-grabber
  Developed an administrative credentials exfiltration payload for USB Rubber Ducky (penetration testing hardware by Hak5) based on a Bash Bunny payload.
  Once installed, the payload sends administrative credentials to a specified server if typed.

  Project #2:
  https://github.com/birkhoffcheng/bashbunny_multi-platform_payload
  Multi-platform auto-detect payload for BashBunny.
  Sends a reverse shell back to a specific server.
  Published on GitHub.

- **Technology Committee (Grade 11)**
  Discuss about vulnerabilities in the school network or students' computers and how to fix them.
  Promote online security and privacy on campus.

Volunteering/Community Service

- **Translate user interface for Tor and Tutanota (Grade 10 – 11)**
  Tor (The Onion Router), free software enabling anonymous communication.

Tutanota, a German end-to-end encrypted email provider.
Both are free and open source software, meaning anyone can contribute code or translation.
Translate texts in part of the user interfaces of Tor Browser and Tutanota from English to Chinese.

- **Building Websites for Local Businesses (Grade 11)**
  Help local business owners who don't have website-building expertise make websites.
  e.g. URL: http://www.ojaizenspa.com