Andrew Pan | computation enthusiast

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tny.town/cv.pdf @ Git revision 506893e

Education

University of Minnesota

Bachelor of Arts in Computer Science, 3.793 GPA   *2019–present*

Currently **3rd year**. Dean's List S2020-F2021. Waller Scholarship recipient 2021. Pursuing French Studies and Philosophy minors.

Experiences

Further details and work samples available on request.

Adamala-Engelhart Lab

2021-present: Undergraduate Research Assistant at the Adamala-Engelhart Lab of the University of Minnesota.

→ Maintaining a predominantly Python Flask+SQLAlchemy app to enable research with synthetic biology of cyanobacteria.
→ Retrofitting a novel and intuitive VueJS interface on top of the Flask app.
→ Exploring novel applications of computing to synthetic biology research.

ACM UMN

2020–present: Officer (webmaster) for ACM UMN, the local chapter of the Association for Computing Machinery.

→ Involved in planning the first and only online MinneHack (largest hackathon in Minnesota). Prepared promotional materials and executed a non-traditional hackathon structure, collaborating with other ACM officers.
→ Currently maintaining web presence for the ACM UMN, static sites checked with GitHub Actions CI and Nix.
→ Continuing to plan events and engaging with students interested in computing.

UMN SVP

2019–2020: Member of the Controls subteam on the UMN Solar Vehicle Project.

→ Worked on design of the rearview system and integrated USB tethered logging for the telemetry system.
→ Prototyped an editor for a YAML-based CAN packet definition schema in Rust.
→ Participated extensively in build cycle (layups) for the Freya vehicle, which won 1st place at the Formula Sun Grand Prix.

Trivia

Ask me (almost) anything about the following things.

web: REST, PHP, Node, HTML/JS   **sysadmin**: NixOS, UNIX-like OSes, awk, sed, Docker

mobile: Java, Android apps, Frida   **misc**: Git, CI/CD, Reverse Engineering, r2, Go, C/C++

Personal Projects and Open Source Contributions

⌂ *Check out more on my GitHub profile!*

tpl-c900-openwrt-install ⌂ ....

keywords: reverse engineering, embedded, unix, lua, go

Broke firmware verification scheme on the TP-Link Archer C900, a consumer router. Installed open source router firmware (OpenWRT). Documented process.

u2dl ⌂ ....

keywords: web, fish, unix, ffmpeg

Developed Fish shell script to download YouTube videos. Bypassed the "rolling cipher" with standard Unix tools. Wrote an accompanying minifier to compress the script down ~291%, final size 2kb.

J2V8 ⌂ ....

keywords: cpp, nodejs, android, docker

Ported J2V8, Java bindings for the NodeJS JavaScript engine, to Android. Automated build process with a Docker image. Submitted changes to upstream.