

Curriculum Vitae

About

Name

Knot (he/they)

Email

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Links

GitHub: <https://github.com/knot126>

Website: <https://knot126.github.io/>

Codeberg: <https://codeberg.org/knot126>

YouTube: <https://youtube.com/@knot126>

Expreience

KnShim (2024 – 2025) and **YipLoader** (2026 – present)

KnShim was a mod for Smash Hit that injected into the game and added new scripting functions. It powers some of the most popular and interesting mods like Smash Hit Teaser and Smash Hit Time Attack.

YipLoader is a partial successor which takes the game loading functionality and makes it available to several types of games on Android. It provides a basic API for mod writers to hook functions and apply patches dynamically.

Key Points: C (and C++), Lua, Reverse Engineering, Code Injection, Function Hooking

Leaf (2024 – present)

An easy to integrate (single header) ELF loader focused on allowing modification of libraries and programs at runtime.

Key Points: Program Loading, POSIX

Katten Server (2023 – present)

A reimplementaion of the *Touch Pets: Cats* game server, including a partial reimplementaion of the Plus+ social gaming network which is

required for the game to function.

Key Points: PHP, Python, MongoDB, Reverse Engineering

Shatter (2020 – 2025)

Extension for Blender which allows editing levels for the game *Smash Hit*. Includes basic documentation, quick level testing via a special modified client and built in server.

Key Points: Python, Blender Extensions, 3D, Reverse Engineering

Melon (2021)

C library designed to abstract over OS API differences and be simpler to use than programming directly. Also includes nice utilities, like storage management, without extra dependices.

Key Points: C, POSIX Usage, Libraries

Quick Run Engine (2021 – 2022)

Basic game engine programmed in C for a video game I was making. Supported graphics in OpenGL, a basic custom physics engine, scripting and had later expriments with procedural content and non-triangle geometry.

Key Points: C, Lua, OpenGL, Graphics

Skills

General skills

- Programming
- Reverse engineering

Programming Languages

- C (and some C++)
- Python
- Lua
- HTML/CSS/JavaScript (*basic* Web programming)
- PHP
- Also have basic knowledge of D, Java, Smalltalk, Common

Lisp and can work in them if required

Frameworks

- OpenGL
- Blender Extensions
- Flask
- UNIX-like environments
- discord.py

Programs and Tools

- Basic UNIX and Linux utilities
 - Ghidra
 - Android NDK
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Education

I graduated from secondary school in 2024. I always like to say that the best experience I ever had in High School was failing three classes to learn Calculus using Khan Academy. I would say that is one of my biggest strengths – the ability to adapt and learn things on the spot.

Note

I **refuse** to use Generative AI, LLMs, or similar technologies in any form for my work, as I strive to avoid the negative mental effects associated with its use, such as skill loss and mental health issues. Thank you for your understanding.