Vi Grey

vigrey.com | vi@vigrey.com | github.com/ViGrey

LANGUAGES AND TECHNOLOGIES

- Go, Python, PHP, 6502 ASM, Z80 ASM, Bash, Javascript, HTML, CSS, JSON, XML, Brainfu--

- Linux, Unix, Windows, CentOS, RHEL, AWS, Unix Permissions, Cron, AngularJS, Node.js, TCP/IP, HTTP, TLS, SSL, SQL, MongoDB, MySQL, LaTeX

WORK EXPERIENCE

Software Engineer, Technology Researcher, & Speaker   2014 - Present
VG Interactive (Independent) — Rochester, MN/New York, NY

- Created a research lab to actively develop skills and knowledge in modern and historical technology
- Writes and speaks about technology, security, and information theory

Conference Name Badge Developer   (Contract) 2018-2019
Midwest Gaming Classic — Milwaukee, WI

- Created first name badge for a gaming conference that is a playable game cartridge
- Developed new NES game "Bovinium Quest - Batteries Not Included" from scratch in 6502 Assembly
- Programmed, assembled, and soldered over 600 cartridges by hand
- Created score code system that lets players submit their high scores to an online leaderboard

Software Engineer & Information Security Engineer   2015
Excel Manufacturing — St. Charles, MN

- Developed sales and support ticket management application to improve sales and support team productivity
- Encrypted database information and hashed passwords with bcrypt to protect data in case of a data breach
- Set up AWS virtual servers to test application deployment before running those applications in production environments

Web Developer   (Contract) 2015
Toymaker Television (Tymkrs) — Rochester, MN

- Created a website design for desktop with the security requirements of needing to be static and easily maintainable
- Optimized original website design to reduce loading times by more than 75% and allow for dynamic content size

Systems Administrator & Web Developer   2011-2013
Jon Hassler Theater — Plainview, MN

- Created a web-based box office ticket reservation system to improve work productivity
- Developed and maintained website, increasing page traffic by over 800%
- Managed computer systems and networks to keep business operations functioning

PRESENTATIONS

- **Bet You Never Played an NES Game like This: Innovating Under Limitations** — Cyphercon 4.0 – Milwaukee, WI   2019
- **I Dream of Game Genies and ZIP Files - Hacking the NES** — HOPE Conference – Manhattan, NY   2018
- **Phishing for Root** — DEFCON 201 Technical Meeting – Hoboken, NJ   2017
- **Fair Results From an Unfair Coin** — NYC Python Lightning Talks – Manhattan, NY   2017
- **Attacking Your Two-Factor Authentication** — K-LUG Technical Meeting – Rochester, MN   2017

PROJECTS

This Resume   2020
- See Footnotes [1] [2] [3] [4] [5]

GB/NES/HTML/PDF/ZIP Polyglot File   2019
- Gameboy ROM that is also a functioning NES ROM, HTML file, PDF file, and ZIP file that contains the file's full source code

Brainfu-- Programming Language Interpreter on NES Cartridge   2018
- Interpreter for the Brainfu-- programming language that can be played on an NES using a standard NES controller

NESZIP   2018
- Proof of concept tool that makes an NES ROM that is also a ZIP file that contains a copy of its own source code

3F.py   2017
- Python script that takes 2 different types of files and creates a file that is simultaneously a functioning version of both files

Modem-Tap   2017
- Middleware audio engine written in Go that emulates a network connection though a Bell103 dial-up modem

Personal BBS   2017
- Online Bulletin Board Service written in Go — `telnet vigrey.com`

Root Phisher   2017
- Proof of concept Bash script that pretends to be the sudo password prompt and deletes traces of itself

ignis   2015
- Scripting and templating engine written in Python for generating static websites

Latchbox   2014
- Password manager written in Go that uses a console based user interface

rcube   2013
- Python module that solves scrambled Rubik's Cubes

datecalc   2012
- Python module that can calculate the day of the week for any date (Ported to Go, Ruby, and Javascript)

COMMUNITY WORKSHOP MEMBERSHIPS

- **DEFCON 212** — Makerspace – New York, NY   2018 - Present
- **DEFCON 201** — Makerspace – Hoboken, NJ/Jersey City, NJ   2017 - Present
- **The Rabbit Hole** (Operated by the Tymkrs) — Makerspace – Rochester, MN   2013 - Present
- **K-LUG** — Linux User Group – Rochester, MN   2016 - 2017

PUBLICATIONS

- **Concealing ZIP Files in NES Cartridges** — Proof of Concept or GTFO Issue 0x18, 4, pp 17-21   2018

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[1] This PDF is also a valid Python (2&3) file that prints this resume in ASCII *(Works on Linux/macOS/*nix systems only)* — `python3 ViGreyResume.pdf --help`
[2] This PDF is also a valid Brainfu-- program that prints this resume in ASCII
[3] This PDF is also a Brainfu-- program interpreter *(Works on Linux/macOS/*nix systems only)* — `python3 ViGreyResume.pdf --bf ViGreyResume.pdf`
[4] This PDF is also a valid static HTML file version of this resume — Rename **ViGreyResume.pdf** to **ViGreyResume.html** and open it in a web browser
[5] The source code for this resume can be found at `https://github.com/ViGrey/ViGreyResume` or by unzipping this file, which is also a valid ZIP file