# 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, LTFX

## 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**

• See Footnotes 1 2 3 4 5	2020
	2019
• Gameboy ROM that is also a functioning NES ROM, HTML file, PDF file, and ZIP file that contains the file's full source coo	
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 fil	es
Modem-Tap	2017
<ul> <li>Middleware audio engine written in Go that emulates a network connection though a Bell103 dial-up modem</li> </ul>	
Personal BBS	2017
• Online Bulletin Board Service written in Go — telnet vigrey.com	
Root Phisher	2017
<ul> <li>Proof of concept Bash script that pretends to be the sudo password prompt and deletes traces of itself</li> </ul>	
	2015
<ul> <li>Scripting and templating engine written in Python for generating static websites</li> </ul>	
	2014
Password manager written in Go that uses a console based user interface	
rcube	2013
<ul> <li>Python module that solves scrambled Rubik's Cubes</li> </ul>	
	2012
<ul> <li>Python module that can calculate the day of the week for any date (Ported to Go, Ruby, and Javascript)</li> </ul>	
COMMUNITY WORKSHOP MEMBERSHIPS	
• <b>DEFCON 212</b> — Makerspace – New York, NY 2018 - Pr	resent
• <b>DEFCON 201</b> — Makerspace – Hoboken, NJ/Jersey City, NJ 2017 - Pr	resent
• The Rabbit Hole (Operated by the Tymkrs) — Makerspace – Rochester, MN 2013 - Pr	resent
• <b>K-LUG</b> — Linux User Group – Rochester, MN	- 2017
PUBLICATIONS	
• Concealing ZIP Files in NES Cartridges — Proof of Concept or GTFO Issue 0x18, 4, pp 17-21	2018

 $<sup>^1</sup>$ This PDF is also a valid Python (2 & 3) file that prints this resume in ASCII - python3 ViGreyResume.pdf --help

<sup>&</sup>lt;sup>2</sup>This PDF is also a valid Brainfu-- file that prints this resume in ASCII

 $<sup>^3</sup>$ This PDF is also a Brainfu-- program interpreter - python3 ViGreyResume.pdf --bf ViGreyResume.pdf

<sup>&</sup>lt;sup>4</sup>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

<sup>&</sup>lt;sup>5</sup>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