

# Aravinth Manivannan

STUDENT DEVELOPER, FREE SOFTWARE ACTIVIST

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## Skills

<b>Languages</b>	Rust, Python, TypeScript, Go, Bash, JavaScript, Java
<b>Technologies</b>	Actix Web, WebAssembly, Django, React.js, Svelte, Docker, PostgreSQL, SASS, Redis, Open API, Nginx, GraphQL, Gemini, OAuth, Zola, JSON-RPC, Hyperledger Fabric
<b>DevOps</b>	Docker, Designing micro-services, GitHub Actions, Travis CI, Netlify
<b>Engineering</b>	Test-driven development, version control workflow, code review, systems designing
<b>General skills</b>	Rapid learning, time management, team management, Linux Knowledge, Cooks a mean Biryani

## Education

### VIT AP University

BACHELOR OF SCIENCE IN COMPUTER SCIENCE, GPA: 7.83/10.00

present

[Website](#)

Near Vijayawada - 522237, Andhra Pradesh, IN

## Experience

### mCaptcha

FOUNDER CEO

- Design and develop high-performance, horizontally scalable backend: Rust, Actix-Web, Postgres, Redis
- Design and develop high-performance, lightweight, server-side rendered frontend: Sailfish, TypeScript, SASS
- Design and develop custom native Redis module
- Integration for multiple frontend web frameworks(React, Svelte and Vanilla JS)
- Deployment and software distribution
- Documentation

[Homepage](#)

March 2021 - PRESENT

### Null (infosec) Chapter

CHIEF DEVELOPMENT OFFICER & TECHNICAL ADVISOR

- Webmaster

[VIT AP, AP](#)

July 2021 - PRESENT

### Women in Open Source(WiOS)

TECH LEAD

- Design and maintain official website

[VIT AP, AP](#)

July 2021 - PRESENT

### batsense.net: self-hosted, privacy focused indie webbing

OWNER WEBMASTER

- Search engine
- Secure chat platform
- Tor node
- See legend for full list of services: <https://batsense.net/services>

[Services](#)

2019 - PRESENT

### Null (InfoSec) Chapter

TECH LEAD

- Designed and built a Capture The Flag event for freshmen introduction event in under two weeks(Source Code)
- Webmaster

[VIT AP, AP](#)

October 2020 - July 2021

### Actix Web

CONTRIBUTOR

- Documentation: migrated the project to intra-doc links
- Code recipes

[Project Code Base](#)

November 2020 - PRESENT

## Projects

## GitPad - Self-hosted Git-powered, pastebin service

DEVELOPER

- Heavy SSR, No JavaScript web interface
- +90% code coverage
- Syntax highlighting
- PostgreSQL and SQLite support is implemented via sqlx

[Website and Source Code](#)

November 2021 - Present

## ForgeFlux - API-space software forge federation

DEVELOPER

- Includes a Northstar- a DNS-like service for software forge federation
- +80% code coverage
- ActivityPub design
- OO Python design

[Website and Source Code](#)

November 2021 - Present

## libadmin - Django Admin implementation in Rust

DEVELOPER

- Out of the box authentication
- Web framework agnostic
- Database agnostic
- Actix Web support is implemented
- PostgreSQL and SQLite support is implemented via sqlx

[Source Code](#)

October 2021

## Pages - Static website deployment mangager

DEVELOPER

- Uses Git
- Can deploy builds directly from remote Git repositories
- Simple to deploy and use

[Source Code](#)

November 2021

## LibMedium - Privacy-respecting medium.com proxy

DEVELOPER

- Light-weight no JS implementation
- Proxies assets like images and GitHub gists
- Extensively caches data for fast load times
- Faster than medium.com

[Source Code](#)

November 2021

## Kaizen - Privacy-respecting Anonymous Feedback Aggregator

DEVELOPER

- Light-weight no JS implementation
- 90% test coverage

[Source Code](#)

October 2021

## Athena

DEVELOPER

- HTTP command and control framework
- JavaScript based cross-platform payload
- weaponized version of VS Code as proof-of-concept RAT

[Source Code](#)

August, 2021 - present

## Actix Web Ecosystem libraries

DEVELOPER

- Cache Buster: caching library written in rust
- Actix Stateful Sessions: Redis based opaque session implementation
- Actix Auth Middleware: Backend agnostic session management middleware
- Actix Optional Middleware: Supports conditional loading of middleware

[Collection](#)

2021

## Redis Leaky Bucket native module

DEVELOPER

- active leak
- supports cluster mode
- supports persistence through RDB
- High performance(see project's README)
- all subroutines are tested

[Source Code](#)

June 2021

## Damn Vulnerable Blockchain

DEVELOPER

- vulnerable by design(attack scenario detailed in project's readme)
- p2p blockchain implementation
- in-built peer discovery service
- Proof of Stake with coinage
- client library
- 88% code coverage (as of January 17, 2021)

### Identity

DEVELOPER

- Identity and access management platform built for the IndieWeb
- OpenID Connect based
- Uses OAuth2.0 for third-party integration
- Uses novel actor model based, proof-of-work DoS protection mechanism
- Follows the 12 Factor App recommendation
- 70% code coverage (as of December 14, 2020)
- Performant, built with Rust

## Hackers Union CTF

DEVELOPER

- High performance CTF platform
- real time scorecard

## IDS Matrix

DEVELOPER

- Light weight Intrusion Detection System for GNU/Linux Systems
- Built on top of Matrix(a decentralised messaging service)

## Porting postmarketOS to Samsung Galaxy Tab E 9.6(SM-T561)(samsung-gtle36)

DEVELOPER AND OFFICIAL MAINTAINER

- Uses upstream Linux kernel
- Display and WiFi works

## Yify Torrents Wrapper

DEVELOPER

- NOTE: I don't support piracy, this is a project that I built for fun
- Fetches data from Yify Torrents
- Schedules jobs on server for downloads
- Updates inventory
- Provides an interface to stream content

## Tracking

DEVELOPER

- IoT-based, cheap three-dimensional indoor positioning system
- Visual Range accuracy
- Easy deployment, uses existing infrastructure(WiFi) routers

[Source Code](#)

January 2021

[Source Code](#)

August 2020 - present

[Source Code](#)

Oct 2020

[Source Code](#)

June 2020

[Home Page](#)

July 2020

[Source Code](#)

June 2020

[Source Code](#)

August 2019- January 2020