Aravinth Manivannan

STUDENT DEVELOPER, FREE SOFTWARE ACTIVIST

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Skills

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

Education

VIT AP University   *Website*

BACHELOR OF SCIENCE IN COMPUTER SCIENCE, GPA: 7.83/10.00   *Near Vijayawada - 522237, Andhra Pradesh, IN*

present

Experience

mCaptcha   *Homepage*

FOUNDER CEO   *March 2021 - PRESENT*

- Design and develop high-performance, horizontally scallable 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

Null (infosec) Chapter   *VIT AP, AP*

CHIEF DEVELOPMENT OFFICER & TECHNICAL ADVISOR   *July 2021 - PRESENT*

- Webmaster

Women in Open Source(WiOS)   *VIT AP, AP*

TECH LEAD   *July 2021 - PRESENT*

- Design and maintain official website

batsense.net: self-hosted, privacy focused indie webring   *Services*

OWNER WEBMASTER   *2019 - PRESENT*

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

Null (InfoSec) Chapter   *VIT AP, AP*

TECH LEAD   *October 2020 - July 2021*

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

Actix Web   *Project Code Base*

CONTRIBUTOR   *November 2020 - PRESENT*

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

Projects

GitPad - Self-hosted Git-powered, pastebin service

Website and Source Code

DEVELOPER   *November 2021 - Present*

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

ForgeFlux - API-space software forge federation

Website and Source Code

DEVELOPER   *November 2021 - Present*

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

libadmin - Django Admin implementation in Rust

Source Code

DEVELOPER   *October 2021*

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

Pages - Static website deployment mangager

Source Code

DEVELOPER   *November 2021*

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

LibMedium - Privacy-respecting medium.com proxy

Source Code

DEVELOPER   *November 2021*

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

Kaizen - Privacy-respecting Anonymous Feedback Aggregator

Source Code

DEVELOPER   *October 2021*

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

Athena

Source Code

DEVELOPER   *August, 2021 - present*

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

Actix Web Ecosystem libraries

Collection

DEVELOPER   *2021*

- 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

Redis Leaky Bucket native module

Source Code

DEVELOPER   *June 2021*

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

Damn Vulnerable Blockchain

Source Code

DEVELOPER

January 2021

- 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

Source Code

DEVELOPER

August 2020 - present

- 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

Source Code

DEVELOPER

Oct 2020

- High performance CTF platform
- real time scorecard

IDS Matrix

Source Code

DEVELOPER

June 2020

- 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)

Home Page

DEVELOPER AND OFFICIAL MAINTAINER

July 2020

- Uses upstream Linux kernel
- Display and WiFi works

Yify Torrents Wrapper

Source Code

DEVELOPER

June 2020

- 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

Source Code

DEVELOPER

August 2019- January 2020

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