Vanir Jose Rodrigues Junior

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Summary

I am a Software Engineer with a long track record of solid industry experience, and have worked in many different segments of the industry, such as corporate software development, 2D/3D computer graphics, multimedia, web, mobile, games, IoT, serverless and cloud computing.

My experience working as a Software Engineer in London spans 25 years, with a further 13+ years of experience prior to my relocation to the UK. Throughout this time, I have worked with an extensive range of technologies for developing/engineering both front-end and back-end applications.

Nowadays, I am mostly focused on engineering Microservice Architectures for Full Stack cloud based applications, and continuously building a strong foundation in programming languages and technologies, such as Full-Stack JavaScript, Typescript, NodeJS, Kotlin/JS, Angular & React, Java Spring Boot, Ktor, Kotlin, Python, Go Lang, Cloud Computing and Serverless, Infrastructure as Code, such as Terraform/Terragrunt, AWS CDK and CloudFormation, and DevOps technologies, including Github and Gitlab CI/CD Pipelines, Docker/Swarm, and Kubernetes. Recently, I started diving into AI and Machine Learning technologies, and I am looking forward to start applying these new techs in my future projects.

I would describe myself as a flexible and fast learning software engineer, with attention to detail and strong organisational and project management skills, always focused on delivering efficient solutions, no matter what programming languages and technologies are being adopted. Open to new challenges, I'm continuously learning new technologies and new programming languages, as my extensive experience allows me to easily adapt to different development environments and to a multitude of tech stacks.

Work Experience

Senior Software Engineer
FundamentalVR
2023 – Present

Role: *Senior Software Engineer*
Duties & Responsibilities:
- Developing and maintaining front-end and back-end applications.
- Developing and maintaining cloud based infrastructure, databases and data storage functionalities, and security solutions.
- Developing and engineering DevOps solutions, including CI/CD Pipelines, reusable Github actions and workflows.
- Seeing through a project from conception to finished product.
- Engineering, developing and deploying Serverless API applications and SDK libraries.
- Managing cloud based resources using Infrastructure as Code technologies.
- Liaising with other teams in the organisation to gather requirements and deliver software solutions.
- Sharing product knowledge and experience with various teams in the organisation.
Skills Applied:
- Front-end tech stack, including HTML, CSS, JavaScript, Typescript, React, and NextJS.
- Back-end technologies, such as JavaScript/TypeScript NodeJS and AWS API/Lambda/IaC frameworks such as Serverless Framework and SST Serverless.
- SQL and NoSQL database technologies.
- AWS Infrastructure as Code technologies, such as CloudFormation & CDK.

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Senior Full-Stack Developer
Ubisoft London
2017 – 2023

Role: Senior Full Stack Developer
Duties & Responsibilities:
- Developing front-end & back-end applications.
- Designing and developing API Servers and SDK Libraries.
- Maintaining a cloud based infrastructure, API servers, and databases functionalities.
- Ensuring cross-platform optimisation for multiple devices, and responsiveness of applications.
- Working alongside graphic and game designers for designing and implementing features.
- Seeing through a project from conception to finished product.
- Liaising with other teams in the organisation to gather requirements and deliver software solutions.
- Sharing product knowledge and experience with various teams in the organisation.

Skills Applied:
- Front-end technologies such as HTML, CSS, JavaScript, Typescript, Angular, React, and Kotlin/JS.
- Back-end programming languages, including NodeJS (JavaScript & Typescript), Java, Kotlin, and C#.
- SQL (MySQL/MariaDB) and NoSQL (DynamoDB and MongoDB) databases.
- Cloud Computing Infrastructure as Code technologies (Terraform and Terragrunt).

JavaScript Engineer
BW Broadcast
2016 – 2017

Role: JavaScript Engineer/Developer for IoT embedded systems.
Duties & Responsibilities:
- Develop and Engineer Web Applications for remotely configuring and monitoring the company's radio broadcast hardware products.

Skills Applied:
- Web front-end languages such as HTML, CSS, JavaScript, jQuery and Knockout.js.
- Server-side back-end technologies such as WebSockets, Embedded Systems, IoT.

Full Stack Engineer/Webmaster/Games Developer
Self Employed
2009 – 2016

Role: Webmaster / Full Stack Engineer / Games Developer
Duties & Responsibilities:
- **Developing/Engineering front-end & back-end software applications, and SDK library packages.**
- **Developing/Engineering and web based game applications.**
- Installing, configuring, maintaining, and scaling web servers and network infrastructures.
- Working with high traffic websites and highly demanding network systems.

Skills Applied:
- Web front-end languages such as HTML, CSS, JavaScript, Typescript, and ActionScript.
- Server-side technologies such as PHP, Java and Python and C++.
- SQL and NoSQL database technologies.
- Server OS and Network Architecture for FreeBSD, Linux, and Unix systems.

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Full Stack Web Developer/Engineer

Marven Ltd.

2000 – 2008

Role: Full Stack Web Developer/Engineer.

Duties & Responsibilities:
- Developing/Engineering websites and web services, including both back-end and front-end applications.
- Integrating 3rd-party software libraries and SDKs from multiple web services.
- Implementing SEO rules to web products.
- Installing, configuring, maintaining, and scaling servers and network infrastructures.
- Working with high traffic websites and highly demanding network systems.

Skills Applied:
- Web front-end languages such as HTML, CSS and JavaScript and ActionScript.
- Server-side technologies such as PHP and Perl.
- SQL database technologies.
- Server OS and Network Architecture for FreeBSD, Linux, and Unix systems.

Software/Web/Multimedia Developer

Various Companies

1987 – 2000

This document includes my most relevant work experience covering the past 20+ years. Prior to this period, I have another 13+ years of solid industry experience, working in software development, 2D/3D animation, digital video, web, and multimedia development.

Education

Masters/MSc Computer Science with Software Engineering

Wrexham Glyndŵr University, Wales, UK

Currently in progress.

Published Work & Personal Projects
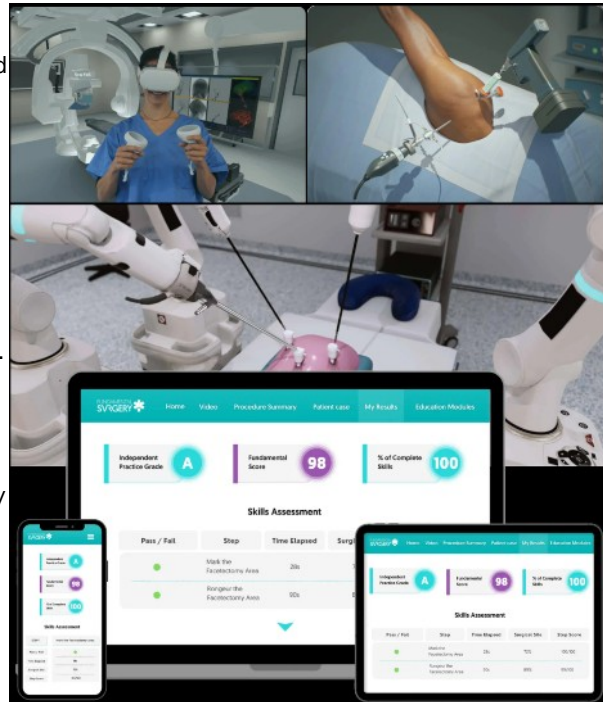
Fundamental Surgery
https://fundamentalsurgery.com/

Fundamental Surgery is a Virtual Reality training platform for medical professionals and students. Created and maintained by FundamentalVR, it offers a range of skills and training experiences that facilitate remote and immersive medical training within a virtual reality (VR) environment.

At FundamentalVR, I worked as part of the infrastructure team, delivering solutions for cloud based applications and infrastructure, as well as delivering DevOps solutions for application deployment pipelines. Some of my achievements whilst working here, includes:

- Engineering and developing serverless applications to integrate AWS native services with RESTful APIs.
- Engineering and managing multiple cloud resources/services, including, lambda functions, databases functionalities, static data storage, content delivery systems, monitoring and notification services, and data and network security solutions.
- Engineering Unit-Tests & CI/CD pipelines for both cloud based applications and Unity VR application builds.
- Engineering DevOps solutions for simultaneously deploying cloud resources and applications to multiple tenant accounts and environments.

Hungry Shark World

- https://www.ubisoft.com/en-gb/game/hungry-shark/world
- https://play.google.com/store/apps/details?id=com.ubisoft.hungrysharkworld
- https://apps.apple.com/gb/app/hungry-shark-world/id1046846443
- https://www.nintendo.co.uk/Games/Nintendo-Switch-download-software/Hungry-Shark-World-1403530.html

Hungry Shark World is a 3D video game title published by Ubisoft London for multiple platforms, such as mobiles, tablets, and game consoles. I worked on this project for almost 7 years, as a member of the Server Team.

My initial role at Ubisoft London was a Front-End Application Developer role, developing and engineering solutions for front-end web based applications, and soon, I started collaborating with the back-end team, due to my previous knowledge and experience with back-end development,. As a result, I was moved to the role of Senior Full-Stack Developer. During my time at Ubisoft London, I have achieved many accomplishments, including:

- Engineering and developing complex full stack systems from conception to design to implementation.
- Engineering and developing RESTful API server applications.
- Engineering and developing software libraries to provide reusable functionalities to different applications and services.
- Engineering and developing software SDKs to connect our API services with many other applications.
- Engineering and developing smart Software Deployment pipelines.
- Creating and maintaining Cloud Infrastructure, including the engineering of fully reusable modules using Infrastructure as Code technology.
- Implementing new features and solutions to the many challenges presented by the various stages of product design and engineering.
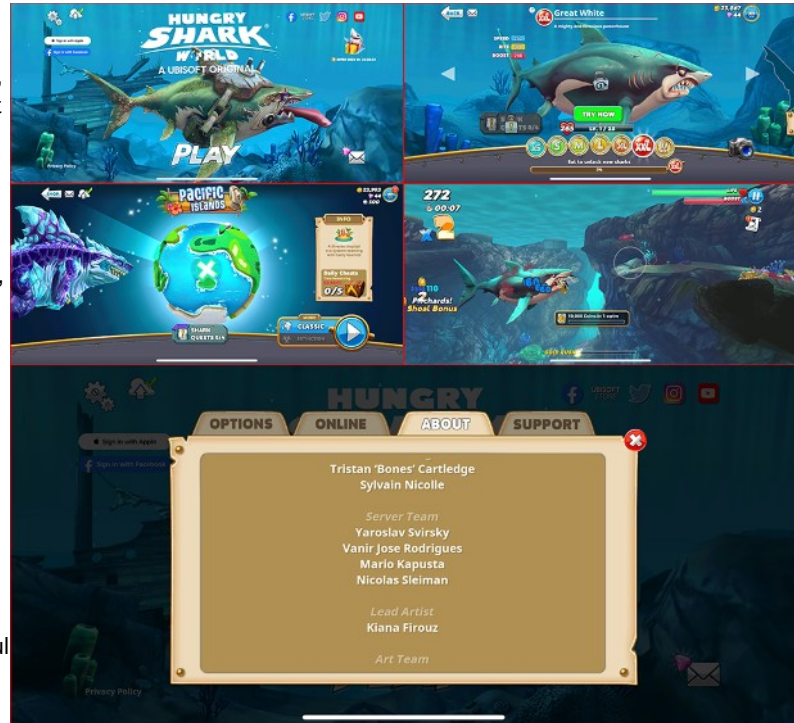
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C.I.S. - Covid Information System

https://cis.vanirjr.com/

C.I.S. is a personal project which was developed as an assignment to my master's degree program. It is a research project for engineering a full-stack web application to deliver information on the Covid-19 pandemic.

The front-end application is a Single Page Application (SPA) entirely developed in pure JavaScript. It delivers all features expected of a SPA, such as, state management, routing, user authentication management, dynamic forms, async web requests, and more. Usually, this kind of application is developed using JavaScript frameworks such as Angular, React or Vue, but this application does not use any 3rd party framework at all, and all features were fully implemented using pure raw JavaScript, HTML5, and CSS3 technologies.
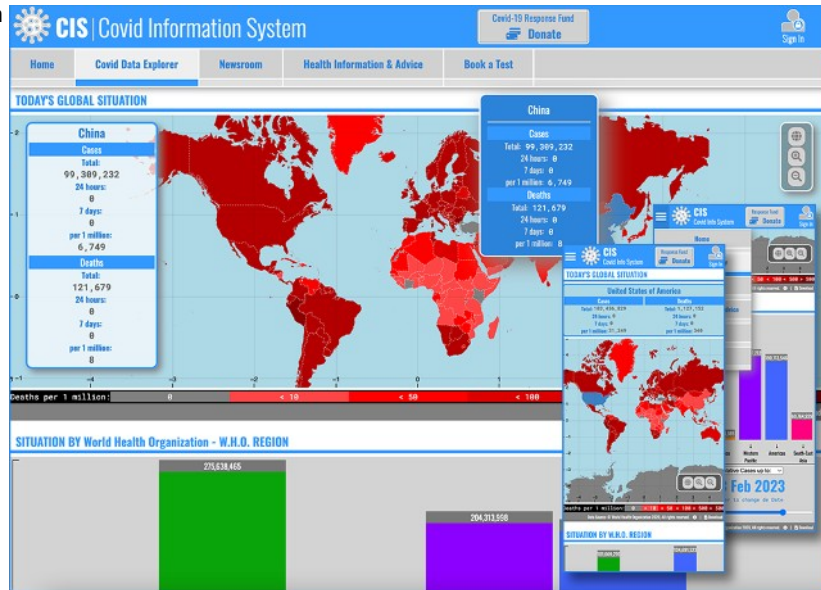
One of the main highlights is the World Map application, where each country is colour coded based on the number of deaths per 1 million people, and the user can click on each country to get detailed information, such as number of cases and deaths in the last 24 hours, last 7 days, and so on. As part of my research, instead of using an embedded map application, such as Google Maps, I decided to build my own Map Application, using open-source geographical data and interactive SVG drawing technology, implementing all expected features usually available in any map application, such as zooming in and out, and horizontal and vertical panning, data binding, and user interactivity.

The Map Application was built by connecting different technologies together, including D3.JS (https://d3js.org/), GeoJSON (https://geojson.org/), Natural Earth Data (https://www.naturalearthdata.com/), and WHO (World Health Organisation) public API (https://covid19.who.int/info).

The application also features an interactive graph that compares data from each region of the world. The user can navigate through historical data, by interacting with a custom slide control, and compare number of cumulative and new cases and deaths from the beginning of records up to today's date (https://cis.vanirjr.com/data-explorer).

The application is fully responsive and can be used as an App on iOS, Android, and Windows systems. It also features a fully working Test Booking service (https://cis.vanirjr.com/book-test), User Authentication service (https://cis.vanirjr.com/sign-in), User Account Creation service (https://cis.vanirjr.com/sign-up), and User Account and Session Management using the JWT technology.

CV Wars

https://www.vanirjr.com/

CV Wars is another personal project, developed many years ago as an attempt to create a different, more attractive type of CV, delivering not only information, but also a fully working application that could demonstrate my skills as a software engineer.

The application is basically a Retro Style Arcade Video Game, inspired by the Star-Wars saga, featuring an Introduction letter played in the same scrolling text animation style as seen in the original movie, followed by an interactive menu, offering options for, playing the game, learning the game rules and how to play, configuring the game's star field background, replaying the into cover letter, and accessing/downloading the CV in pdf format (this very document).

It's important to point that no game engine or 3rd party frameworks were used to build the application, all complex features that are usually provided by game engines, such as animations, collision detection, multi-functional controls, automated enemies' movements and actions, and more, were entirely coded from scratch using raw JavaScript/JQuery, HTML5 and CSS3 technologies.

The video-game features infinite level progression, which gradually increases the difficulty as the player shoots down the enemies' spaceships. It's a Single Page Application (SPA) fully responsive but intended to be played on a Desktop Computers only, as it requires a keyboard for navigation and game play. I intend to implement mobile friendly controls soon, but due to my very busy schedule currently, it was not yet implemented.