

Michael Yi wing Yau

SOFTWARE DEVELOPER

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Skills and Experience

Programming Languages	Scala, Python, TypeScript, Rust, LaTeX
Back-End Development	Scala (Typelevel Stack, Play Framework) RESTful APIs, Functional Programming
Front-End Development	React, Next.js, Play Framework, Tailwind CSS, HTML, CSS
Monitoring Tools	Grafana, Kibana, Splunk
DevOps & Cloud	Docker, GitHub Actions, Jenkins CI/CD, AWS (EC2, S3, Lambda)
Database & Data Management	PostgreSQL, MongoDB, SQL, NoSQL
Miscellaneous	Git/Github Version control, Jira, Confluence, Vim, Ubuntu, macOS, Various IDEs
Languages	English (Native), Chinese - Simplified (Intermediate), Chinese - Traditional/Cantonese (Fluent)

Work Experience

Capgemini

SCALA DEVELOPER

Telford, England

Jan. 2021 - Present

- Some tools used: Scala, Gatling, Selenium, proprietary libraries, Cats, Functional Programming, Play Framework, MongoDB.
- Developed various microservices for HMRC services, ensuring accessibility, performance, and compliance with UK GDS government standards.
- Service enhancements across different domains: Income TaxView and Change, Tobacco & Alcohol Customs Duty, Charities Registration, Covid Furlough Scheme, Gov Gateway/SCP and many others etc.
- Collaborated across teams, contributing to product development and live service maintenance.
- Improved code quality and maintainability in Live services and current build project.
- Designed and improved automated testing frameworks, enhancing End-to-End and Performance Load tests.
- Integrated in-house libraries, including encryption utilities and NoSQL Mongo-based backend tools, ensuring security and scalability.
- Resolved critical production issues in legacy systems, improving reliability and performance.
- Resolved issues using real-time monitoring and error diagnostics with Kibana for system stability.
- Analyzed and reverse-engineered live systems for better documentation and onboarding.
- Mentored new hires and contractors, promoting knowledge sharing and best practices.

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JUNIOR CONSULTANT

Leeds, England

Jan. 2019 - Dec. 2021

- Specialized in Software Testing and Agile methodologies.
- Completed training in Agile, Git, Java, JUnit, JMeter, Selenium, and more.
- Studied Python independently for 7 months, exploring various libraries.
- Earned ISTQB Testing Foundation and BCS Business Analysis certifications.
- Developed a web scraper, CNN using Keras API, and studied ML/deep learning.
- Transitioned to Capgemini/HMRC for Scala-based projects.

Freelance / Miscellaneous

VARIOUS PART-TIME JOBS

Various Locations

Jan. 2014 - Dec. 2019

Certificates

2019 **BCS Business Analysis**, British Computer Society

2019 **ISTQB Foundation**, ISTQB

Self-Study / Pet Projects

FRONTEND & BACKEND DEVELOPMENT

- Attempted to delve into a distributed full-stack application using Next.js, Scala Typelevel stack, and PostgreSQL, implementing best practices in performance and maintainability.
- Learned a lot about Docker, Docker network, compose, and Traefik.
- Learned a lot about Next.js/React in general.
- Developed proficiency in Typescript.
- Learned a lot and utilised Github Actions.
- Explored and integrated various libraries within the React ecosystem, gaining hands-on experience in state management, component design, and API integration.
- Successfully utilised Tailwind CSS utility classes to streamline styling and improve user experience, with a focus on accessibility and responsive design.
- Built a backend using the Scala Typelevel stack, leveraging functional programming paradigms for robust and scalable applications.
- Implemented the Tagless Final pattern, improving abstraction, modularity, and testing capabilities within Scala-based microservices.
- Forced myself to use PostgreSQL to develop proficiency in SQL, focusing on database design, query optimization, and indexing strategies for improved performance.

RUST PROGRAMMING

- Completed the Rustlings exercises, gaining foundational knowledge and experience in Rust's ownership model, memory safety, and concurrency features.
- Explored Rust's type system, pattern matching, and error handling, applying these concepts in small-scale projects.
- Gained experience working with Rust's ecosystem, including Cargo package management, unit testing, and build optimizations.

SCALA PROGRAMMING

- Explored the wider ecosystem outside of proprietary HMRC tools, such as Typelevel stack, various libraries such as ScalaCheck, Pureconfig, WeaverTests to name a few.
- Further improved my understanding of functional programming researching Category Theory, Tagless Final and reading various material on Effect Systems
- Explored and studied some category theory for the basis of functional programming
- Familiar with the native library, practicing within my own repositories and making notes on new concepts

PYTHON PROGRAMMING

- Created a playground library called Boxcat hosted on PyPI. Essentially it was to be able to write Python in a functional Scala fashion.
- Early career built a web scraper, CNN and played with various libraries such as Scikit, Pandas, Matplotlib and Seaborn.
- Early career studied basic programming concepts and syntax.

LATEX PROGRAMMING

- Helped develop a friend's PhD Thesis.
- Learned a lot about using LaTeX, Nix/Nix shell and Vim
- Used to write my CV special thanks to Claud D. Park. for the base template and then heavily modified to suit my taste and needs

CLOUD COMPUTING TECHNOLOGIES

- Completed cloud quest lab and workshops.
- Set up VPC, EC2 instances
- Passing cloud certifications

Education

Cardiff University

BSC 3 YEARS BIOCHEMISTRY 2:2

Cardiff, Wales

Sept. 2014 - Aug. 2017

St Teilo's Church in Wales Highschool

A LEVELS

Cardiff, Wales

Sept. 2012 - Aug. 2014

- ABBBa - Mathematics, Biology, Chemistry, Physics, Further Mathematics

St Teilo's Church in Wales Highschool

GCSEs

Cardiff, Wales

Sept. 2008 - Aug. 2012

- 4 A* - Biology, Chemistry, Physics, Chinese
- 4 A - Including Mathematics and English Language
- 4 B - Various subjects