# Michael Yi wing **Yau**

SOFTWARE DEVELOPER

*1, Clos Telerch, Rumney, Cardiff, Wales*

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## Skills

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|---:|:---|
| **Programming Languages** | Scala, Python, TypeScript, Rust, LaTeX |
| **Back-End Development** | Scala (Cats-Effect 3, Play Framework), RESTful APIs, Functional Programming |
| **Front-End Development** | React, Next.js, Play Framework, Tailwind CSS |
| **DevOps & Cloud** | Docker, GitHub Actions, CI/CD, Kubernetes, AWS (EC2, S3, Lambda) |
| **Database & Data Management** | PostgreSQL, MongoDB, Redis, SQL, NoSQL |
| **Languages** | English (Fluent), Chinese - Simplified (Fluent), Chinese - Traditional (Fluent) |

## Experience

**Capgemini** *Telford, England*

SCALA DEVELOPER *Jan. 2021 - Present*

- Developed and optimized frontend designs for HMRC government services, ensuring accessibility, performance, and compliance with UK government standards.
- Led the enhancement of multiple services across key domains, including Tobacco and Alcohol Customs Duty, Charities Registration, the Covid Furlough Scheme, and Gov Gateway/SCP.
- Collaborated across cross-functional teams, contributing to both product development and live service maintenance.
- Designed, maintained, and enhanced automated testing frameworks, improving the efficiency of End-to-End and Performance Load tests.
- Integrated and optimized various in-house libraries, including encryption utilities and NoSQL Mongo-based backend tools, enhancing system security and scalability.
- Diagnosed and resolved critical production issues in legacy systems, improving reliability and performance.
- Implemented real-time monitoring and error diagnostics using Kibana, ensuring system stability across multiple environments.
- Analyzed and reverse-engineered live service systems to enhance documentation, streamline onboarding, and support knowledge transfer.
- Provided technical mentorship and facilitated onboarding for new hires and contractors, promoting knowledge sharing and best practices.

## Self-Study

FRONTEND & BACKEND DEVELOPMENT

- Developed a full-stack application using Next.js, Scala Typelevel stack, and PostgreSQL, implementing best practices in performance and maintainability.
- 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.
- Developed proficiency in SQL, focusing on database design, query optimization, and indexing strategies for improved performance.

RUST PROGRAMMING

- Completed the Rustlings exercises, gaining foundational knowledge 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
- Further improved my understanding of functional programming researching Category Theory, Tagless Final and reading various material on Effect Systems
- Familiar with the native, practicing within my own repositories and making notes on new concepts

PYTHON PROGRAMMING

- Completed the Rustlings exercises, gaining foundational knowledge 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.

LATEX PROGRAMMING

- Helped develop a friends Phd Thesis.
- Used to write out my CV special thanks to Claud D. Park. for the base template

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
- Maths, Futher Math, Biology, Chemistry, Physics

*Cardiff, Wales*
*Sept. 2012 - Aug. 2014*

# Extracurricular Activity

# Certificates

2023    **AWS Certified Advanced Networking - Specialty,** Amazon Web Services (AWS)