Curriculum Vitae

Summary

Experienced Tech Lead driven by a genuine passion for guiding teams and fostering innovation. I have a proven track record of leveraging diverse perspectives to deliver cutting-edge and impactful technology solutions. With expertise as a Senior Full Stack Developer, DevOps Engineer, and Data Science enthusiast, I thrive in data-rich, creative, and innovative environments.

Skills and Software

- **Back End:**
    - `Go` (Goroutines, templ, zap, gorm, typescriptify, xc)
    - `TypeScript` (Node.js, NestJS, TypeORM, jest, npm, yarn)
    - `Python` (Pandas, NumPy, Scikit, TensorFlow, Keras, Jupyter, Pytest, Mocker)
    - `Java` & some `Scala` (Spring, Apache, JUnit, Maven, Gradle)
- **Front End:**
    - `TypeScript` & `JavaScript` (`React`, `Next.js`, ChakraUI, Storybook)
    - `HTML5` and `CSS3`
- **Database and Data Engineering:**
    - RDBMS/ SQL (`PostgreSQL`, `Oracle`, `SQL Server`, `MySQL`)
    - NoSQL (`MongoDB`, `DynamoDB`, `Neo4j`)
    - `Snowflake` & `Fivetran` exposure
- **Architecture and Cloud:**
    - `AWS`: Lambda, SQS, EventBridge, Step Functions, ECS, EKS, ECR, Cloudwatch
    - Infrastructure as Code: `Terraform` & `CDK`
    - `CI/CD`: GitHub Workflows, `Test Driven Development`, `Launch Darkly`
    - `Docker` & `Kubernetes`
    - `RESTful` Web Services & `WebSockets`

Achievements

Hack Hate 2020: Hate Detector | 10/2020

🏆 Winner: Best use of AI / ML (awarded by AWS)
🏆 Winner: Best use of location (awarded by ESRI)

Presentation: https://youtu.be/xDyxznaKjCQ?t=1913 | **Code**: https://github.com/HateDetector

Utilising my in-depth knowledge of `Python` and Master's thesis research, I spearheaded a team of engineers to develop a tool to detect and visualise networks of hate speech. The team scraped 18.5 million tweets related to the 2020 US Election and classified them using a consensus of three machine learning models: `Logistic Regression`, `Support Vector Machines`, and my own `Convolutional Neural Network`. The data was loaded into a `Neo4j` graph database and visualised in order to analyse trends and see patterns in the data.

Experience

Full Stack Software Engineer | Aviva Zero | London | 01/2024 - present

Leveraging cutting-edge technology to tackle climate change with products offering carbon offsetting

- **Optimizing Backend Performance in Go**: I leverage my expertise in writing fast and performant backend code in `Go`, utilizing language features to achieve optimal outcomes.
- **Crafting User Interfaces with Chakra UI and Storybook**: I translate `Figma` designs into well-tested, well-designed, accessible front-end code using `Chakra UI` and `Storybook`.

- **Building Serverless Infrastructure with CDK**: I design and implement event-driven `serverless` infrastructure code using `CDK`. I have recent experience with `Step Functions` and Kinesis Firehose for efficient orchestration of user journeys and data processing.
- **Continuous Improvement Champion**: I actively implement improvements to enhance code quality. Recent examples include making requests idempotent and implementing automated alerting and observability improvements to streamline `DevSecOps` processes.
- **Promoting Developer Best Practices**: I foster a culture of transparency and collaboration by advocating for developer best practices. This includes creating improved `documentation`, providing constructive feedback through squad health checks, and participating in `post-incident reviews`.

Lead Software Engineer (Tech Lead) | Flock Cover | London | 02/2023 - 01/2024

Making the world quantifiably safer by reinventing insurance from the ground up

- **Developing the Next-Generation Insurance Platform**: I was responsible for working across the full stack to design, build, and deploy new features using cutting-edge `serverless` technologies in `AWS`. This includes developing with tools like `NodeJS`, `TypeScript`, Postgres, and Scala.
- **Quality Assurance and Code Review**: I ensured the delivery of high-quality, well-tested features into our production system on a regular basis. I also reviewed the code of my fellow developers via Pull Requests on GitHub to maintain our high standards.
- **Mentorship and Pair Programming**: I worked directly with other developers through pair programming and provide `mentorship` to less experienced team members, fostering a culture of knowledge sharing and continuous improvement within our team.
- **Participation in Agile Practices**: I actively participated in Agile ceremonies such as planning sessions, retrospectives, stand-ups, etc. I collaborated with the Product and Tech team to design and estimate new features, and I helped maintain and improve our `infrastructure and pipelines`.
- **Research and Continuous Learning**: I proactively researched new technologies to help us maintain a competitive edge. I was committed to learning new tech stacks when required, and I focus on developing a deep understanding of AWS serverless technologies to effectively deploy and monitor our platform.

Senior Consultant Full Stack Engineer | Infinity Works part of Accenture | 10/2021 - 02/2023

Convex Insurance: utilising the latest technologies to offer new growth opportunities in the specialty market

- Tech Lead for a new mission to automate the extraction, enrichment, and distribution of underwriting data to downstream systems.
- Developing and maintaining multiple web applications for specialty insurance. Utilising `TypeScript`, `Node`, `Nest.js`, `React`, `Postgres`, `Docker`, and `AWS` (ECS, RDS, Lambda, S3, EventBridge, CDK).
- Designing and implementing complex integrations and automations, utilising `serverless` and `event-driven architectures`.
- Working closely with the client to understand their vision and refine a roadmap of delivery.
- Mentoring, pair programming, and peer reviewing the work of junior developers.
- Leading agile ceremonies on behalf of the scrum master.

Software Engineer | UK Home Office | 09/2020 - 10/2021

- Developing internal web applications in `AngularJS` and `ReactJS` with a focus on `TDD` and `BDD`.
- Working closely with designers and user researchers to implement `Figma` wireframes to ensure the best possible user experience.
- Implementing and maintaining a REST API in `Node.js` with back-end connections to NoSQL databases including `MongoDB`.
- Working with multiple applications and application logic in `Docker` containers and managing them with `Kubernetes`, as well as experience using `Drone` for Continuous Integration.
- Adding the infrastructure for new data sources to be loaded to the product, including work on the API, data stories, and creating mock data for testing.

- Creating bespoke scripts to improve the efficiency and robustness of the product, for example, a `Python` script to update specified `Kubernetes` secrets when new data sources are added.
- Advising and collaborating with Data Scientists when working on a `Python` packages that contain reusable code across repositories. For example, a `Neo4j` wrapper class to make connecting and reading data more abstract and user friendly.

IT Developer | Mott MacDonald | 09/2018 - 09/2020

- Designed and developed a program (`Java 8`, `TDD`, `Maven`) to integrate data from our legacy Enterprise Resource Planning (ERP) system to our new Cloud Based ERP. Applying `SOLID principles` the program made use of `Dependency Injection` and common `Design Patterns` including a Factory, Consumer, and Producer. In the process, creating a bespoke RESTful API library for making requests to the new ERP.
- Analysed and developed a prototype procurement and purchasing integration between ServiceNow and our ERP. Written in `JavaScript`, the integration utilised RESTful APIs, complex workflows, business rules and SMTP servers.
- Cloud based back-end development of extensions - in `Java` with `XML` configurations - to our PaaS ERP. Acting as the lead technical expert on extensions, despite only being with the company for a short time, highlighting my ability to grasp new technologies.
- Designing, developing, and deploying bespoke integrations with our ERP. Utilising Java and recent improvements in `Object Oriented` and `Functional` Programming such as: `Streams` and `Lambdas`.
- Developing electronic forms in JavaScript, Java, and `PL/SQL` with a focus on UI and UX.

Education

Birkbeck, University of London | MSc Computer Science | Distinction | 09/2017 - 09/2019

This intensive programme provided a solid grounding for a career in IT. It imparted an in-depth knowledge of computing, software development, and programming. I investigated current areas of research from `Cloud Computing` and `Big Data`, to `Machine Learning` and `Natural Language Processing`.

In addition to cutting-edge research, the course covered a variety of topics including Object-Oriented and Functional Programming, `SOLID principles` and `Design Patterns`, the Software Development Life Cycle, Information Systems and Retrieval, Computer Architecture, Operating Systems, and fundamentals from `binary` and `boolean algebra`, to `data structures and algorithms`.

Projects: available at https://github.com/JAWorsfold

Royal Holloway, University of London | BA History | 2:1 | 09/2009 - 08/2013

Studying history improved the depth and range of my transferable skills and developed my:

- critical reasoning and analytical skills, including the capacity for creative problem solving.
- communication in a structured, clear and persuasive manner, both orally and in writing.
- self-reliance when working without direct supervision and managing time & priorities effectively.

Hobbies and Interest

- Reading and creative writing
- Science and technology
- Nature and the environment
- Flying trapeze and gymnastics
- Scuba diving