

Craig Whelan

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- ❖ Fourth year Computer Science student used to adapting to high pressure and tight deadlines, familiar with agile methodologies, and fast at picking up new programming languages, frameworks and technologies. Proficient in a broad range of programming languages, frameworks, and project experience with CI/CD automated testing & AWS cloud architectures.

IT SKILLS

- Currently attending Amazon Web Services evening classes at the college during my spare time. Aiming to complete AWS Solutions Architect Associate exam in June 2020
- Capable of designing, implementing and maintaining cloud-based architectures in AWS. Knowledge of a variety of networking, compute, storage, database & misc. AWS services.
- Also familiar with Azure and Google Cloud platforms.
- Knowledge of microservice architectures and containerization.
- Project experience in leveraging various AI/ML APIs such as Azure Read OCR, AWS Textract, Google Vision.
- Project experience in leveraging CI/CD tools in Azure DevOps to automate testing and deployment.
- Confident developer in C#. Capable of building full-stack Web Applications in the ASP.NET ecosystem; MVC 5/6 & Razor Pages.
- Currently studying backend RESTful web services with .NET Core Web APIs.
- Also familiar with Java and C++.
- Currently studying the Rust programming language.
- Proficient with Git and Git Workflows.
- Can monitor systems using Bash Scripts.
- Capable of using both SQL and NoSQL databases.
- Capable of analysing and visualizing data in Tableau.
- Can analyse data using R, RStudio and create reports using RMarkdown.

INTERNSHIP

TUDublin IT Department
Intern Cloud Architect

Jan 2019 – Sept 2019

- Worked in a dynamic team environment responsible for the migration of on-premises college services to the AWS Cloud.
- Involved in designing and implementing a highly available, fault tolerant and scalable EC2 based architecture to handle traffic from thousands of students and lecturers.
- Worked with auto scaling groups, launch configurations, AMIs and load balancers in order to implement a scalable EC2 architecture.
- Used CloudWatch to monitor resource metrics and set alarms to allow auto scaling groups to scale in and out to changes in traffic.
- Gained exposure to IAM to allow the team to create and manage users, groups and their permissions, including setting up access keys to permit programmatic access to AWS APIs.
- Worked with S3 to create and maintain buckets, including setting up versioning, data at rest encryption, various permissions, and adding lifecycle rules to move objects to different storage classes after a period of time e.g. infrequent access/glacier.
- Used CloudFormation to provision our networking, application and database layers as code, in order to deploy common stacks across testing and production environments.
- Also used various logging systems for troubleshooting: EC2 system logs, CloudTrail API call logs and VPC flow logs.
- Gained exposure to Route 53, which the team used to route traffic to both the on-premises servers and AWS cloud endpoints.

EDUCATION & QUALIFICATIONS

BSc in Computing with Software Development

2016 - present

Technological University Dublin (Tallaght Campus)

On track to achieve First Class Honours

Relevant 1st – 3rd year Modules studied: Java Software Development 4 Modules, Operating Systems, Networking 3 Modules, Advanced Databases 2 Modules, Discrete Mathematics, Cloud Services & Distributed Computing, Statistics, Data Analytics, Web Application Development, Data Structures & Algorithms/C++

4th Year Modules studied (current GPA: 3.80): DevOps: CI/CD, Enterprise Applications Development 1, Interactive Design & Visualization, Information Management, Enterprise Performance Cloud Architecture.

Modules in progress: Enterprise Applications Development 2, Algorithms & Computation, Computation Theory, 4th Year Major Project, AWS Cloud Practitioner & Solutions Architect

Significant Projects Undertaken

Booking System Web Application

Description

For my 4th year project I am working on a full-stack Booking System for CSinc.ie. The system is currently live and has taken hundreds of camp bookings from schools all over Ireland. I am continuously maintaining and adding new features to the application, including an upload feature which will automate the process of extracting handwritten data from thousands of collected surveys and entering the data into an AWS RDS SQL Server database for research purposes.

Challenges faced:

- Build a secure and reliable system capable of handling thousands of camp bookings.
- Implementing an efficient feature which is capable of scanning thousands of uploaded handwritten surveys, accurately extracting answer data line by line and entering it into a database.
- Leveraging an AI/ML OCR API to help parse handwritten text from surveys into ASCII characters for database entry.
- Implementing highly accurate logic and algorithms to measure checkbox pixel density which allows parsing of handwritten checkbox marks from surveys for database entry.

Technologies & Tools Used:

Azure DevOps CI/CD pipeline with automated testing (unit testing, K6 load testing, Zap security testing & Selenium testing), deployed to a scalable AWS architecture and built with ASP.NET MVC5. Leveraged the Azure Computer Vision Read API (also tested the Google Vision OCR and AWS Textract OCR APIs for accuracy with handwritten survey answers; the Azure Read API provided the highest level of accuracy), Google Maps, and various AWS services such as AWS Simple Notification Service and AWS RDS.

Help-desk Support System

Description

In 2nd year I designed, developed, implemented and tested a Help-desk Support Ticketing System from conception to execution. This was a desktop application which allowed users to create an account & submit as many support tickets as necessary. The tickets are then submitted to the right person or department for resolution. Other features include, ticket tracking (edit/remove tickets), ticket priority numbering, user/admin dashboard views & user account management (edit general details, password, security question/answer etc.).

Technologies & Tools Used:

Java, Eclipse IDE, Swing GUI toolkit, Java Database Connectivity (JDBC) API, SQL, SQL Developer & Oracle Database Express.

REFERENCES

Dr. John Burns
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