Matthew Alexander Bieda
Software Engineer

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Technical skills & Certifications

x86 Assembly, C, C#, C++, Python (Django/Flask/FastAPI), JavaScript/TypeScript (React/Next/Node/Express), Golang, React Native, GraphQL, HTML, CSS, Relational DBs (SQLite, MySQL, Postgres, Percona), NoSQL (MongoDB), Bootstrap, Git, Cloud(Azure, AWS), Docker/Podman, Github Actions/Azure Pipelines Kubernetes(AKS)/OpenShift(ARO), Ansible, Terraform, Linux/Bash, Agile (Scrum), Jira, Confluence, OpenGL, GLSL, WebGPU, CMake

AZ-900 (Azure Fundamentals), AZ-104 (Azure Administrator Associate), AZ-204 (Azure Developer Associate)
CKA (Certified Kubernetes Administrator)

Work Experience

Insight Enterprises(EMEA): Site Reliability Engineer
December 2023 - November 2024

- I was responsible for the deployment of the Insight EMEA ARO(Azure Red Hat Openshift) cluster through IaC (Bicep), as well as day 2 operations and teammate onboarding.
- Migrated my popular internal secret-sharing app (Ruby on Rails) previously deployed via Azure Web App into the ARO cluster through k8s deployment manifests, GitHub Actions and Azure Container Registry. I also further augmented it with a URL Shortening feature that allows anonymous usage unlike the upstream.
- Helped to migrate a .NET based client authentication app into the cluster and configured OpenShift pipelines (Tekton) to manage infrastructure for an exploratory project.
- Developed a Powershell automation to streamline Engineers' interactions with Azure PIM, which required a nuanced understanding of Graph API and Entra ID Governance.
- Resolved various bugs to keep client automations running smoothly and maintain SLAs/SLOs.

Phlexglobal(AmerisourceBergen): Site Reliability Engineer
June 2023 - November 2023

- Joined a new SRE team that was directly responsible for the availability of PhlexTMF in production in accordance with SLAs. My role was split evenly between operational support and reducing operational toil through software development.
- Became familiar with a wide range of technologies and issues through support rotation, including internal tools. These ranged from classic sysadmin tasks such as database administration (replication, backups, encoding) and diagnosing issues via an SSH or RDP session, through to resolving problems with cloud-native services such as Azure Service Bus and AKS. I was also responsible for resolving blockers for the delivery team carrying out business-critical client upgrades.
- Wrote a PowerShell script that utilised New Relic's GraphQL API to enable the delivery team to disable synthetic monitoring during upgrade/maintenance windows, resulting in a huge improvement in our SLA measurements for client uptime.
- Worked on a project to integrate an AI optimization service into our AKS clusters that significantly reduced our spend on compute resources. I wrote the Bash script used to apply the service to each client and helped install the tool into Kubernetes.
- Explored open-source projects that allow us to run and manage synthetic monitors directly inside Kubernetes, so we are potentially less dependent on expensive observability platforms.
- Conducted a deep-dive into RabbitMQ configuration settings in order to improve cluster stability, I found an erroneous setting and so managed to resolve a long-standing issue.
- I identified some issues with Redis causing instability due to caching behaviour, extensively documented my findings, and worked with development in order to see the issue through to resolution.
- Adjusted monitoring settings in New Relic to reduce noise on support rotas, allowing us to focus on important issues where we could add business value.

Insight Enterprises(EMEA): Site Reliability Engineer
June 2022 - June 2023

- Worked as part of the SRE team at Insight to create several bespoke automations for a large global client leveraging ServiceNow, Ansible Tower and Microsoft Azure.
- Personally developed an internal tool for sharing sensitive data over the web based on a popular open-source project that is being used to generate & send secrets for client automation requests and internal teams. I gained practical experience with container deployments on Azure and configuring Github Actions CI/CD workflows.
- Helped to create an automation script with Ansible that locates and cleans up orphaned resources within a client's public cloud tenant, saving them over €500,000 a month.
- Worked to develop a CI/CD pipeline leveraging Terraform and Github Actions for a cloud-agnostic monitoring project.
- A presentation based on our infrastructure won Best Partner Presentation at Red Hat Tech Exchange 2023 in Dublin.

The Software Institute: Cloud Engineer
April - June 2022

- Received 3 months of intensive training in DevOps methodologies and tools. I learnt about the evolution of corporate IT infrastructure and the development workflows & techniques that have accompanied it.
- Also learnt about handling client interactions in a professional manner.

FCI Multiple Services (United States): Japanese -> English Technical Translator
December 2019 – September 2020

- Through freelance translation of financial, medical, and legal documents I obtained experience of collaborating with a project manager in order to produce results within tight deadlines.
- I broadened my language skills into specialist domains and improved my ability to produce high-quality translations by improving my vocabulary.

Coulsdon College: Exam Invigilator
January - February 2013

- Invigilation of GCSE & A-Level examinations.

Personal Projects

OGLRenderer
A from-scratch (OpenGL, GLFW, C++) 3D Rendering Engine created to learn and demonstrate various techniques in Computer Graphics.

GraphVis
An interactive tool for visualizing graph algorithms such as Dijkstra's, A*, Bellman-Ford, Prim's, and Kruskal's. It offers step-by-step demonstrations to make complex algorithms easy to understand and intuitive, helping users grasp how they work in real-time.

jp-translate
A state-of-the-art open source Japanese ⇋ English machine translation system created with OpenNMT. Deployed using Docker & Streamlit. Accompanied by a research paper. My model achieved near commercial levels of translation quality with a <£100 compute budget as a sole developer.

Microservices in Kubernetes
A microservices application that converts video files to mp3 created with Kubernetes(Minikube, k9s, Docker Hub), Python(Flask), MySQL, JWTs, MongoDB(GridFS) and RabbitMQ.

Software Ray-Tracer
Based on Peter Shirley's 3 part series culminating in a cutting-edge CPU ray-tracer.

Breakout
A from-scratch implementation of Breakout in OpenGL.

Capstone
A blog developed with SQLite, Django, Bootstrap and Javascript. Featuring mobile-first responsive design. Deployed with PythonAnywhere.

Education

September 2020 - September 2021
Queen Mary University of London – MSc Computing and Information Systems (Distinction - 80%):
Dissertation Title: Refining the state-of-the-art in Machine Translation, optimising NMT for the JA <-> EN language pair by leveraging personal domain expertise.

Harvard University – CS50x Introduction to Computer Science (December 2020):
Introduction to computer architecture, data structures, algorithms, C, Python, HTML, CSS, MySQL, Bootstrap and Flask.
Harvard University – CS50's Mobile App Development with React Native (November 2021):
Javascript, React, React Native, Redux, Asynchronous Redux, Deployment, Testing and optimization.
Harvard University – CS50's Web Programming with Python and Javascript (January 2022):
Python, JavaScript, and SQL using frameworks like Django, React, and Bootstrap. Topics include database design, scalability, security, user experience and deployment.

Stanford University – CS106A Code In Place (May 2020):
Completed a 5-week introductory online Python programming course based on material from the first half of Stanford's introductory programming course, CS106A.
Final Project (Space Invaders game in Python): https://compedu.stanford.edu/codeinplace/public/projects/0135.html

September 2015 – June 2019
University of Sheffield - BA Japanese Studies (2.1 Honours - 68%)
Including exchange year at Seijo University (Tokyo, Japan)
Dissertation title: Re-evaluating the role of Industrial Policy in Japan's "Economic Miracle" 1955-1973

- Developed a high level of ability in reading, writing, speaking and comprehending Japanese. Also developed a strong working knowledge of classical and literary Japanese in addition to everyday usage.
- Significant focus on translation skills, learnt how to prioritise accuracy or readability dependent on the nature of a project. Also learnt how to tailor a translation for a particular audience.
- Developed a significant interest in the causes of Japan's post-war economic growth, culminating in my independent dissertation project.
- Obtained a strong understanding of Japanese corporate governance, human resource practices and labour law.

Reigate College (A-Level) September 2009 – July 2012
English Lit - A*, Mathematics - B, Biology - B, Chemistry - C

Wallington County Grammar School (GCSE) September 2004 - July 2009
6 A*s, 3 As, 3 Bs, 1 C