



Dominic Davies-Tagg

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Born 13 July 1990

Personal Statement

'Flexible, solution-oriented graduate with a range of academic/enterprise experience resulting from years collaborating with companies on innovative projects.'

Prior to graduating, I was offered the opportunity to collaborate with a leading Pharmaceutical company on behalf of the University. This collaboration involved various projects and prototyping ideas for the company, ranging from a corporate social network with complex network visualisations, a clinical data ingestion tool for Graph and Document databases or even an automated metadata management system. This collaboration also led to them funding my further studies and retaining my services as I worked on my masters.

I have gained a unique perspective and set of skills working with both the academic and enterprise worlds. Academia fostered attributes such as self-motivation, teamwork, documentation, professional writing and a drive to innovate and always be developing new skills. The enterprise world taught professionalism, communication, project management, development life cycles, relevancy of methodologies, understanding of user requirements and allowed for me to develop my technical proficiency.

I am now looking to apply my skills and knowledge away from an academic setting, with the goal of pursuing a long-term career and developing the depth of my skills.

WORK EXPERIENCE

2015 – Present

Research Assistant - The University of Derby, Derby

Job Description: Continued collaboration with Roche diagnostics on software projects (see below). Position changed as I was paid to be a student instead of an employee. Collaborating with companies and industry professionals (both technical and non technical) on software projects, Creating/Delivering tutorials to students, Supporting other masters/PHD students with tools and technologies.

2012 – 2015

Developer - The University of Derby (Projects Roche Diag.), Derby

Job Description: Exploring various experimental software/technologies on behalf of Roche Diagnostics, with the aim of prototyping projects that would be of benefit to the company. Using GraphDB for Clinical Management Systems, Natural Search for Clinical Sample Data, Social Network and Analytics Platform for businesses (GraphDb and Graph Visualisation), Upgrading a sample management tool with an rPi.

2010 – 2011

Finance Systems Support - The University of Derby, Derby

Job Description: Delivering dedicated support to the Finance team and the various systems that they employ. Managing Finance/Payment Systems, User Facing and Phone based Tech support, Running an Online shop, Maintaining various spreadsheets and databases.

EDUCATION

2015 – Present

Master's degree in Computer Science (TBC) - The University of Derby

- Degree Description: Undertaken in collaboration with Roche Diagnostics to explore Data Temperature and the more efficient management of data storage.
- Thesis Title: Optimising Large-Scale Multi-Tiered Storage By Extending Definitions of Data Temperature
- Thesis Details: Implementation of new variables and algorithms to expand how a data's temperature is classified, thus providing greater benefit and usage for high performance storage solutions.

Bachelors's degree in Computer Science (2:1) - The University of Derby

- Degree Description: A broad degree that taught Computer Science fundamentals necessary for the applied resolution of technical problems requiring the development of software architectures.
- Degree Details: Software Development, Algorithms & Data Structures, Client-side Web Development, Computer Architectures, Systems Analysis, Databases, Information Systems Management, Web Server Programming & Architecture, Operating Systems

PROJECTS

Automated Metadata Catalog	Replacing an outdated static file system with a project combining Apache Metamodel, Apache Atlas, HBase, Solr and HDFS. The majority of development was done using Java. Was originally brought onto the project as no progress was made after 4 months, within a week I delivered a working prototype.
Unspecified Docker Project	Making use of the containerization technology to deploy a genomics analytic tool. My contribution focused primarily on configuring the maintaining the various containers used by the project.
Data Temperature Management (OpenSource)	Improving the efficiency of tiered-storage solutions by identifying new variables for analysing the patterns in data hotness/coldness. Utilisation of OpenSource tools as there was a move away from expensive SAP tools.
Data Temperature Management (SAP)	Improving the efficiency of tiered-storage solutions by identifying new variables for analysing the patterns in data hotness/coldness, targeting SAP HANA system specifically.
BSc Google Cloud Tutorials	Prepared and ran 5 weeks of tutorials for Google Cloud's App Engine platform (PaaS). Target audience was CompSci students and teaching them the benefits of PaaS. Upon running the tutorials I discovered business-oriented students were also taking the course so I reworked the tutorials and included additional instructions that taught basic HTML, CSS and PHP. (Tutorials were repeated and updated for a few years).
BSc Hadoop Tutorials	Prepared and ran 3 weeks worth of tutorials, the tutorials introduced the students to Hadoop, Pig and HBase. Instead of being challenging the tutorials introduced simple problems and how we can apply Hadoop and related tools to solve these problems. (Tutorials were repeated and updated for a few years).
UCC 2015 Website	Designing, updating and managing the website for UCC 2015 throughout the year until the conference occurred. The site was powered by WordPress.
GraphDB for Clinical Data	DocumentDB for Clinical data. This included creating multi-threaded ingestion tools to format and ingest the (large amount of clinical) data into the database RavenDB.
DocumentDB for Clinical Data	Investigating the viability of GraphDB for Clinical data. This included creating multi-threaded ingestion tools to format and ingest the (large amount of clinical) data into the relevant databases. The GraphDB project was taken further and I had to develop a front-end that displayed a large graph visualisation (thousands of nodes/edges) that was interactive and could be filtered and expanded further.
Extending RFID Storage Device	Using a RaspberryPi or similar device to extend a custom piece of hardware for RFID management of clinical samples. The rPi ran a web server with a RESTful API interface and a mysql storage backend, the database was populated from data collected from the RFID storage device.
Natural Search for Clinical Data	Prototyping a web interface and working with Apache Solr to create a natural language search specifically for clinical sample data.
Business Social Network Platform	Internal social network intended to facilitate knowledge and skill sharing and building internal relationships. Neo4j backend with an interactive front-end website. Primarily using the Bootstrap framework and the D3.js library to provide the intuitive visualisations. Spring was used to power the website and interact with Neo4j.

- Sharepoint Site Upgrade** Coordinating with the all the relevant department leaders about what content and information was outdated and collaborating to get it updated and live alongside the new internal website system.
- UoD Online Shop** Editing and maintaining the online shop, this included negotiating with different departments and making sure correct Finance codes were being applied to items sold. Attended meetings as a technical adviser when discussing upgrades with the company that supplied the payment platform.



SKILLS

- Software Development** Programming (C#, JAVA, C++, Python, Go)
Web Application Programming (Spring Framework, Django, web2py, flask, ASP.NET MVC)
Web Development (HTML, CSS, PHP, Javascript, JQuery, Bootstrap, AngularJS)
Visual Analytics (D3.js, Gephi, JUNG, sigma.js, Tableau)
Version Control (Git, Maven)
- Databases** Relational Databases (MySQL, Oracle, etc)
NoSQL Databases (Cassandra, CouchDB, InfiniteGraph, RavenDB, Neo4j)
BigData (Hadoop, Hive, Pig)
- Cloud** Cloud Computing (various Saas, PaaS and IaaS implementations)
Google Cloud Platform, MS Azure, Amazon AWS
Virtual Machines
Containerisation (Docker)
- Hardware** PC Building/Repair
Minor Electrical Skills
- Communication** Scrum & Agile Project Management (Jira)
Professional Phone Manner
Experience aiding a range of user capabilities
Respect for the range of user capabilities

ADDITIONAL INFORMATION

- Driving licence** Full UK Driving License (with access to car)
- Other Qualifications** PC Assembly and Installation (National Open College Network) [2006]
Oracle 10g SQL (Pingle Sixth Form) [2007/2008]
- Interests** Overclocking, Single Board Computing, NoSQL Databases

REFERENCES

- Ashiq Anjum** Professor of Distributed Systems at University of Derby, UK
- ✉ a.anjum@derby.ac.uk
-  professor-ashiq-anjum-aa2411
- Andreas Koop** IT Project Manager, Merck KGaA, Darmstadt, Germany
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