Thomas Davidson BA, MEng

Phd Student | Max Planck Institute for Software Systems

I am currently studying for a PhD in the field of information visualisation, specifically related to distributed tracing visualisation at the Max Planck Institute for Software Systems. I graduated from my 4th year of study at Cambridge University, achieving a distinction in an MEng in Computer Science. I am ambitious, personable and responsible. I have a strong work ethic and can work independently as well as part of a team. Alongside my studies I also enjoy sport, mainly rugby and cricket (both at University level), as well as photography.

Contact details

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Education

Max Planck Institute for Software Systems - University of Saarland
OCTOBER 2019 - PRESENT

Degrees: PhD in Computer Science

Projects: My research so far has been focussed on the visualisation of distributed tracing data. I have completed survey work looking at the state of visualisation presentation in systems literature and am currently carrying out a design study with the goal of implementing novel visualisation solutions for distributed tracing. This design study work has taken the form of semi-structured interviews working with professionals from industry to initially understand and characterise the problem area, before working together with the collaborators in a form of participatory design to develop solutions.

University of Cambridge
OCTOBER 2015 - JULY 2019

Degrees: BA Hons. and MEng in Computer Science - Class: 1st Class with Distinction - 2019

Projects: Second Year: Project manager of a group of 6 with an industry partner to develop a representation of pedestrian and vehicular traffic around cities by aggregating data sources, to allow the routing of autonomous drones through populated areas. Used the Cesium framework and javascript, and managed a successful team to completion where we all achieved the full credit.

Third Year: Individual project investigating automating Rubik's cube solving using search-based and machine learning approaches in Java using various frameworks. Was awarded a first class grade for my dissertation and project.

Fourth Year: Self-proposed collaborative project and dissertation exploring the use of text and information visualisation techniques in analysing and studying literature. Working with students studying for Masters in English to develop a usable, exploratory analysis tool.

Prizes: - Don Hanson Scholarship 2019
- Title of Scholar 2019
- Intermediate Exhibition 2018

Projects

Digital Relationships - Science Gallery Youth Symposium 2021
JULY 2021

An interactive data visualisation project that allowed users to generate explorative and informative visualisations based on their own Facebook messaging data. The website (https://tjd45.github.io/Digital-Relationships/) and visualisations were mainly developed using d3.js and the work was selected and subsequently presented as an interactive workshop at the Science Gallery's Youth Symposium in 2021.

Experience

Software Engineer Intern
GEOSPOCK LTD, ST. ANDREWS HOUSE, ST. ANDREWS ROAD, CAMBRIDGE, UK | JULY 2018 - AUGUST 2018

Worked for 8 weeks for a Cambridge-based big, real-time, geographical data company as part of the front-end visualisation team. I integrated with the team and participated as a full team member during sprints. Over the summer I:

- Worked mainly with Javascript and CSS to implement visual and functional changes to the product
- Used frameworks like React alongside graphQL to enable integration of database information into the UI
- Worked in an agile manner and used software such as Jira and Bitbucket extensively

Graduate Engineer Intern
BAE SYSTEMS, APPLIED INTELLIGENCE, GUILDFORD, UK | JUNE 2017 - SEPTEMBER 2017

Worked for 12 weeks over the summer for BAE Applied Intelligence, Commercial Solutions. During this time I worked primarily on building a new data ingestion platform as a proof of concept for the company to take forward and potentially adopt. I also completed and won an innovation stretch project with other interns outside of my standard work and was praised for my diligence and ability to adapt to and overcome new challenges in my end of internship review. During my time with BAE I:

- Worked extensively with big data technologies and clustered environments.
- Developed expertise in Nifi, Kafka, HDFS, ElasticSearch and Ambari.
- Extensively tested the system I built using unit testing as well as custom bash scripts and metric collectors.
- Won the innovation stretch project as part of a team of 3 with our solution to 'Improving Public Transport'.

Microsoft Student Partner
CAMBRIDGE, UK | APRIL 2016 - JUNE 2017

I was selected from a very competitive application cohort to become a Microsoft Student Partner for an academic year. As part of the programme I attended events run by Microsoft and helped to run workshops aimed at University students. In general this involved:

- Helping to run tech events and competitions in Cambridge.
- Interacting with Microsoft Valued Professionals to arrange talks and showcases.
- Participating in Microsoft training events to learn new skills.

Software Development Engineer
VISIONBLUE SOLUTIONS, DUBLIN, IRELAND | JULY 2015 - SEPTEMBER 2015 (INTERN :SEPT 2014 - NOV 2014)

Following an internship with this company, I was invited to work for them as a full time software developer until I went to university in October. During my time with Visionblue I:

- Was quickly moved from working on the support desk to work on the technical development team.
- Responded to user-raised problems and repaired several issues in the software using Delphi.
- Helped develop their database system using SQL to improve efficiency and decrease overheads.
- Added new functionality requested by end users of the product.

Additionally, I liaised with clients on a day to day basis. I was able to work largely independently while recognising when to communicate with my superiors.

Assistant Camp Manager
MAVUNJE CAMPSITE, KONGOLA, NAMIBIA | MAY 2015 - JULY 2015

During my year out I travelled to Namibia to work for an English man who had set up a remote campsite in the Zambezi region of northern Namibia. The site could accommodate four groups at a time. Whilst working here I:

- Was responsible for the administration of the camp whilst my boss was away.
- Prepared campsites and led tours on the river for guests of varying nationalities and used my language skills (German and basic french) as well as catering for guests when on overnight trips

Other experience has included work as a shift supervisor in Austria (Nov 2014 - Apr 2015) as a teaching assistant for Japanese school children with Bluebridge Education (Mar 2016) bar staff at music festivals in the UK (Sept 2016 - Present) a facility supervisor for GSAL enterprises (Sept 2013 - Aug 2014) and working as a General Administrator for CreditFix databasing sensitive files (Aug 2013 - Sept 2013)