Combined blogs – Tomas Baltrunas

# Week 1 - Blogs

I was not present in the first week’s lectures due to being sick. However, I consulted Loop, emails, and week two lectures for information regarding week one’s topic of blogs.

To summarise, I read and heard about what makes a blog a blog(reverse chronological post order, text, images, links, comments, etc). I also read about blog types(personal, on a specific device, etc), topics(advertising, travel, etc), jargon(moblog, reverse blog, etc), and impact(bullying, copyright, and so on).

There were a few things in the notes that I was already familiar with. I knew that a blog was short for a “web log”, and I was aware of some blog genres or types, like “online diary” and “commentary on a topic”.

But the notes nevertheless helped me. Upon reading the word “edublog”, I was reminded of blogs like [www.BetterExplained.com](http://www.betterexplained.com) for maths help. I had the insight that the term “blog” extended to many media that before I considered to be “non-blog”, such as publications by professional newspapers(multi-author blogs) and social media posts(microblogging). I also never thought of corporations using blogs as an internal communications tool, and I wonder if I would see such blogs if I got employed in certain companies. Lastly, O’Reilly’s “Blogger’s Code of Conduct” reminded me of online bullying, which could be a problem when blogging. A few completely new things that I learned were blog terms such as “blogosphere”(community of all bloggers) and “blogroll”(list of blogs a blogger recommends).

Overall, I think that this was a good introduction to blogging, providing a more precise definition of a “blog”, and information on the blogging community existing since the late 1990’s. Blogging is a useful communication medium that can have an impact, ranging from marketing, to education, to politics. But like any medium, blogs can have problems regarding copyright, legislation, censorship, and so on.

I plan to use this blogging knowledge(specifically about personal blogs) to write weekly reflective pieces for this module. I may also blog personally by using Loop Reflect, which might help with my life-long learning and my career.

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# Week 2 - Writing and Brain Computer Interfaces

Week 2’s lecture began with a gust of fresh air as amid chaos the students had to get together with their assigned groups to their assigned rows. But that was only for the better: my attention rocketed, and set me up for a good rest of the lecture.

The first half of the lecture was on the topic of writing. I was told why I should learn to write well(writing is a soft skill, ubiquitous in electronic communications, etc). Next, writing components were discussed, from “low-level”(punctuation, spelling, grammar, etc) to “high-level”(coherence, register, formatting, and others). At last, I came across “tips and tricks” on how to write well, including common errors to watch out for, advice on spell checkers, and so on.

To me the contents presented were very reminiscent of Leaving Cert. English. So I did not like the presentation in that regard. I keep on hearing many writing tips, but I think I rarely properly apply them.

Nevertheless, the topic had its good parts. I liked the funny examples showing the power punctuation has over meaning. A new thing that I learned was finding out how to spell a word by performing a Google Search on a few spelling variants, like “high level” and “high-level”, and taking the variant with the most results returned.

I will aim to implement some of the writing tips I heard, by, for instance, re-reading my previous module blog posts that I have not seen in a while to see how I can improve my future posts.

The second part of the lecture was a talk given by Dr. Graham Healy on Brain-Computer Interfaces. The presentation included examples of bio-signals and data associated to them, explanations on how the anatomical signals and data gathering work(neuroscience, lab instruments, etc), and applications of Brain-Computer Interfaces(cardiovascular state, image classification, and much more).

On the negative side, I found that perhaps at times Dr. Healy used too many technical terms without explanation. For example, the reasoning on how electric signals are generated in the brain included the insurmountable “summation of neurons with conducive spatial alignments firing in synchrony”.

But for the most part I think I could understand what was being said. The overall idea of measuring a body’s response and applying the measurements is simple but in my opinion ingenious. I learned more elaborately about the event-related potentials of P300(attention response) and N170(response to a face), and their applications. Thus, the talk was interesting and inspiring.

I plan to use all this BCI knowledge. For the module, I hope to get group project ideas by looking up more examples of bio-signals and their applications. For my course, I may check out the linked “PsychoPy” Python program, as I am learning Python programming. And more broadly, I might also look into the area of neuroscience.

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# Week 3 – Ecommerce and Personal Data

In week three lectures, Cathal Gurrin from Insight Centre brought some ecommerce and data insights to the table. His talk had roughly two parts.

The first part was about digital economy and ecommerce. Cathal went over the recent history of the economy, which moved from a conventional to a digitalised one. He caught me off guard when he said that today’s biggest companies - Google, Amazon, Facebook, etc - are in the digital business, versus big companies of the 20th century - IBM, General Motors, etc - which were conventionally selling physical products. I never thought of this before. What is “normal” to me today is not normal for older people, and I didn’t even realise this. Cathal also mentioned that the first e-business was a shoe company that had no shoes of its own. Instead it interfaced between retailers who had the shoes and the consumers that wanted to buy the shoes. Ah, why did I not think of this idea myself?!

The second part follows from the first, and it’s on personal data, a much more emotional topic. Our electronic devices can collect a lot of data, and that data can say something about us. Companies may be interested in those “digital ourselves”, so as to give us more precise personalisation and recommendation. And to me that is scary. Behind my back there’s corporations accessing and analysing all the images on my phone just because I installed one of their apps, there’s these “behavior analytics companies” selling APIs for those apps, and there’s these marketing agencies longing every detail of mine, from my location to biometrics! Some companies say they “know us better than we know ourselves”. A pure boast that is! I hope privacy, security, and laws(as did EU’s GDPR) will catch up with this trend of information about us being everywhere. But perhaps, in the future, when data sharing is ubiquitous, I will need to change my mindset. How much would I sell my data for? A hundred billion dollars.

Overall, this was a useful introduction to analytics, marketing, and current business-technology trends. There’s power in data, for better or for worse, so I ought to choose wisely who I share it with. About the talk itself, Cathal did some audience engagement via the Kahoot quiz and by asking questions, so I liked that.

Also, as a rough plan, I may eventually try some commercial devices like those of IoT, lifelogging, and so on. The generated insights, graphs, and so on could be useful for improving my productivity, learning, and other things.

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# Week 4 – Machine Translation and Natural Language Interfaces

During the first hour of the CA115 lectures, Andy Way gave a talk on Brazilator, a DCU CNGL Centre for Global Intelligent Content project solving “digital content problems” of the 2014 FIFA(football) World Cup in Brazil. The cup generated a lot of content like Twitter posts, so Brazilator carried out real-time (machine) translation of them. I liked how Andy clearly highlighted the issues that occur when translating human language, such as misspellings, football jargon, and emoticons. Then he mentioned some solutions like normalising and ignoring certain text parts, making me feel like I could’ve roughly solved these problems myself. Brazilator managed to provide translations for 24 language pairs, translating 20 million words a day for 30 days. This is impressive, but I felt that it was nothing revolutionary. Microsoft and other organisations provided support for the project, so this was more like “throwing hardware at it” than solving the problem of translation imaginatively. Yet I did appreciate Andy’s comparison of cheap and fast machine translation to costy and slow human translators for such an event. Besides translation, Brazilator also did sentiment analysis(measuring whether a post was positive/neutral/negative), about which I felt unsure, being reminded of the previous talk on personal data and how organisations can track and know us.

The lecture progressed into the second hour, and before the second talk could begin, the class was given some examples on how to improve their own blogs. Some blog samples were funny and I picked up tips like relating information to my own knowledge and making my blog unique.

Onto the second talk, given by Monica “NOT Jennifer Foster” Ward, on Natural Language Interfaces, which I found closely linked to Brazilator’s machine translation part. When I asked classmates about how did they find the talk, I heard opinions like “I almost fell asleep” and “one of the most boring talks ever”. But let’s be honest they were merely DAMN WASTERS! The talk was AMAZING AND YOU CAN’T DENY IT!!! Sure it was a bit theoretical, defining NL interfaces precisely in terms of knowledge repos, without many practical examples(code/libraries). But there were good parts. The entirety of NLP techniques was simplified into two categories - shallow pattern matching and deep linguistic analysis. The key issue of NLP right now, I think, was stated simply - “what is easy for humans is not so easy for computers, and the other way around”. And at last, who wouldn't want to know more about various respectable applications of NLP, such as IBM Watson(medical research) and WolframAlpha(maths and more)?

To finalise, I enjoyed these talks, but I feel like they’re not very useful to me right now. I got the impression that I need hip “machine learning” tools to implement anything that was talked about. Nevertheless, at least I have some basic ideas on how these “magical” applications involving human language work.

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(Week 5 didn‘t have a blog)

# Week 6 – Project Management

After a week’s break thanks to Storm Emma, the class returned to CA115, to do a quiz first of all. And on that topic, the quiz was fine. I thought that it had some vague questions and questions that weren’t in the open book notes, which is justifiable by saying that a student has to do extra background learning by own initiative to score high. But still the vagueness remains. I did like that the class was allowed to use its own technology devices to do the quiz, and now I know that there is at least one teacher that uses logic. Instead of going Big Brother onto our devices locking them down from the external world, the quiz was simply made to be so long as to make cheating not very time-feasible. At last, as I heard many classmates point out and with which I agree myself, the idea of using a quiz to check attendance is flawed because people can still do the quiz at home.

Next the professor gave a presentation on project management, which I both hated and loved. I thought of the topic as one of those things that I daydream about that when I implement all of its considerations, ideas, and models that my life will be amazing and it’ll be all sunshine in the project work land. But likely I’ll hardly implement anything. Onto the content itself, I have seen things like the project lifecycle and globalisation in my Leaving Cert. Business class, but a refresher and an elaboration on those things did not hurt. The presented planning stage of project management included many items such as the WBS, sequencing of tasks, schedule, and more. But I wondered what about iterative design? What if all these huge plans fail in the end and you were better off doing a bit of small planning, small work, small planning, etc.? I wish the professor to have addressed this or do so in the future. Finally, despite the presentation only being an overview of project management, versus an entire module or degree on it, I still felt that too much content was presented and that I was left overloaded with information.

I will need to use these project management tips and tricks because they have become so relevant to my daily life now of having a test, three projects, a lab, and a programming task due the upcoming week on which I should work on the week before but also must work the week before on a zero-day blog, more labs, and so on. Certainly, I will need to balance my constraints, plan little, perform a lot, close in last minute, and hope that I have learned something on how to prevent this madness in the future.

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# Week 7 - Media Analytics

Suzanne Little, a funder investigator at INSIGHT and our Operating Systems lecturer, came back to haunt us by giving a talk on analysing data from various media (particularly video content).

The professor introduced the subject nicely by at first simply defining a few terms, such as “multimedia”, “medium”, “mode” and so on. Then she reiterated what I knew about computers by explaining how, for example, images, “made up of” visual light, must be converted to pixels and numeric RGB values on a computer, because computers can only understand numbers. Plainly said, then, the job of media analytics is to reverse the process and get human insights from all those numbers and matrices.

After this not-so-bad explanation, the main focus shifted to the applications of media analytics. The central example was the Croke Park Smart Stadium, full of heard-of-before Internet of Things sensors and technologies. I couldn’t believe that, according to Suzanne, this Smart Stadium was critical to academic research, because PhD students, lacking real-world data, bribed each other to make up example data. Another use of the stadium was researching “how loud is the crowd”. Like really? Surely the researchers could be spending their time better. And they did indeed, by helping the park’s grass maintenance and ensuring safety from overcrowding.

This lead onto the application of crowd analysis through CCTV footage, including the detection of unusual crowd activity(running, scattering). This reminded me of terrorism. I think using computer vision (on live CCTV especially) for counter-terrorism could become a new controversial issue. Another application was autonomous vehicles, but as I’ve heard an Uber (self-driving) car killed a person, I’ll see about that...

I liked how attention was given to the technical details behind the applications. For instance, CCTV, having its cameras at weird angles, posed the problem (which I didn’t think of before) of determining proportions of things. For the first time I learned that there are these competition-like “benchmark challenges”, where machine learning models compete by using the same data set. Perhaps I could participate in one one day! But a thing that I missed from the talk was an actual explanation of technologies like “deep learning”. I hear them mentioned, but not expounded.

I appreciated Suzanne’s justification of media analytics by saying that there’s opportunities and jobs available due to problems like the semantic gap(difference between computer data and human insights), big data(with its volume, velocity, and variety), and privacy. Some people will certainly keep their jobs in the near future.

After the talk, I was inspired to look up some Artificial Intelligence articles and API’s, but I’m not sure if I’ll go any further. I do, however, have a vision that I will use this media analytics and computer vision information to track down via DCU CCTV that fiend who (possibly) stole my parked bike’s rear light a few days ago.

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(Week 8 didn‘t have a blog)

# Week 9 – Startup and Insight

In the 11am to 12pm lecture, Monica Ward gave some theory behind and examples of startup companies, and in the second lecture hour Dr. Aoibhéann Bird overviewed the activities and impact of the INSIGHT centre. The research centre has had many projects and ideas that were brought into market by ‘spin-off’ startup companies. Indeed, Monica explicitly talked about the step of idea generation in a startup, listing fresh idea sources like passions, assumption questioning, and wishes. This knowledge came to me untimely, as I had to come up with an idea for my group product beforehand. The next step after idea generation is idea validation. Monica mentioned competitor analysis, competitor landscape research, market analysis, and so on. In my opinion these analyses pose similar questions and so repeat themselves quite a lot, but they are still pertinent to the research of my group product and website.

Taking a step back from the steps, at the start Monica presented a model of startup phases, going from formation to growth, and she finished by giving a diagram of a ‘business model’(waterfalling from the problem to the customer, indicating sources of profit). The models seemed artificial and I couldn’t understand them very well. Certainly, the lecturer herself mentioned that things are not always so organised. On a related note, I appreciated how at the end Aoibhéann acknowledged that INSIGHT could besides its positive impact also produce problems like the machines taking our jobs and so on.

INSIGHT, just like innovative startups who solve problems, can have a positive impact, from society to the economy, via its applications and training programmes. So that’s nice.

Both lecturers gave many examples of what they were talking about. In the area of INSIGHT, many sports applications were described. I found it impressive how the researchers matched the output of high-end cameras with low-cost sensor data and preserved traditional sports by recording top players. There was also an assessment of the Fundamental Movement Skills of adolescents, and a phone application that could tell you if your exercise technique is correct. Both of these could actually be useful to me. In the health area, a sleep vest and wearables similar to Google Glass and Lifelogger for people with neurological diseases were mentioned. I thought the latter could be problematic because people would rely on devices to recall memories, instead of trying to actively recall them themselves. There were more applications, but the artsy holographic circle projections and slow-motion-like videos managed to wake me and the rest of the audience up. So they were cool.

Aoibhéann mentioned that second and third year students can do work placement at INSIGHT, so I’ll consider the centre as a future INTRA opportunity. And in the far future when I graduate, maybe I’ll have my own start-up and apply this theoretical startup knowledge. I’d love to be my own boss and work on things that have an effect, but who knows where will I go.

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