Portfolio

Projects:

Network Version 14 (NV14)

A project attempting to accurately visualize social structures within my year group. The only input is 'friendships' according to a poll conducted by 5 students in my yeargroup. Nodes inputted into Gephi, modelled with Yifan Hu Proportional model, and converted to website format with help from a Gephi plugin.
Languages: `JavaScript` `Java` `SQL`
Status: `completed`
Links: NV14

Network Version 18 (NV18)

A follow-up project of NV14, featuring updated friendships (accurate in Oct 2018) from a larger pool (100 students) and a more efficient edge generation methodology. Made with Gephi, modelled with Force Atlas 2, and available as downloadable images (currently). Languages: `PHP` `SQL` `Git`
Status: `on hold`
Links:

- 4196x4196 Black background
- 4196x4196 Grey background
- 4196x4196 No background, White text
- 4196x4196 No background, Black text

Sign-in project

A 6-month project to develop a late-slip dispenser and software.
The student was able to scan their ID card with a barcode scanner, they would be registered as late on a database, and a receipt printer would print a late-slip for them to bring to their teacher. Despite a complete working product, the school was unwilling to give access to the student database. The project ended up acting as a proof of concept, and subsequently a catalyst for the school to employ a company to make a

fully-fledged sign-in system with sliding doors and RFID.

Languages: `CSS` `HTML` `PHP`

Status: `completed`

Links: [Landing page](#) | [Sign-in page (password protected)](#)

Portable Weather Data Logger (PWDL)

Personal project (IB) that records atmospheric conditions, logs them, and allows for them to be mapped. Equipped with: GPS, barometer, altimeter, hygrometer, thermometer, UV sensor, external water temperature probe.

Languages: `C++`

Status: `completed`

Links:

- [Ski trip GPS recorded with PWDL](#)
  - [Google earth rendering](#)
- [DoE silver level trip GPS recorded with PWDL](#)

School Social Media Directory

Summer coding project

Languages: `CSS` `HTML` `SCSS` `JS`

Version control: `Git` | `Bitbucket`

Status: `on hold`

Links: [Social Media Directory](#)

ManageBac grades extractor

A web scraping tool that extracts grades from [Managebac](#) and can analyse them in a dashboard window.

Languages: `PHP`

Version control: `Git` | `Bitbucket`

Status: `on hold`

Links: [MB Scraper](#)

MEAI (MemeEconomy Artificial Intelligence)

Collaboration with 3 students (two from UK, 1 from Germany) to create a [Reddit](#) bot. Uses database logging, tensorflow, python reddit API (PRAW).

Languages: `Python`

Version control: `Git` | `Bitbucket`

Status: `in progress`

Links: [Homepage](#)

Reddit image extractor script

An image scraper for Reddit that extracts up to 1000 images from a target subreddit and stores them in a local folder. Currently supports customization of `subreddit`, `number of images`, and `minimum image score to download`.

Languages: `Python`

Version control: `Git` | `Github`

Status: `on hold`

Links: [reddit image scraper](#)

Portfolio website

This website is hosted by Netlify (formerly bitballoon), deployed from [Github](#), and created using the [Jekyll](#) static website generator. Languages: `Git` `Markdown`

Version control: `Git` | `Github`

Status: `regularly updated`

Links: https://lucamehl.netlify.com

Programming Languages:

- Python
  - Tensorflow (limited experience)
  - Tkinter for GUI creation
  - PRAW Reddit API (extensive knowledge)
  - RClone (intermediate knowledge)
- Git
- PHP
- HTML/CSS/JQuery/JS
- SQL/PHPMyAdmin
  - Database creation and maintenance (significant experience)
    - MySql
- Unix terminal and Command line (intermediate knowledge)

Experiences:

CERN Internship

I conducted a week-long internship at CERN with the web development and app development teams.

EPFL Robotics Course

I participated in a week-long crash course to some big CS/robotics elements, including control system programming, mapping/localisation (SLAM), behavioural algorithms, and neural nets.

Non-CS Experiences:

CERN Beamline for Schools

World Scholar's Cup

- Top team in Switzerland (2015)
- 8th Place Globally (2016)
- Top team in Europe (2015)

Student's League of Nations

- Representative of Mauritania (2017)
- Representative of Hungary (2018)

University of Waterloo

- Gauss Contest
- Pascal Contest
- Hypatia Contest Certificate of Distinction (2018)
- Beaver Computing Challenge Certificate of Distinction (2017)
- Beaver Computing Challenge Certificate of Distinction (2018)

Other

- Big Science Competition Certificate of High Destinction (2016)

[Download CV](#)

Luca Mehl

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