Michal Torma

SOFTWARE ENGINEER

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Education

University of South-Eastern Norway   *Bø i Telemark*

MASTER IN ENVIRONMENTAL SCIENCE   *June 2019*

• **Master thesis - The reliability of Citizen-science data collection - analysis of *Natur i Endring* project**

University of Zilina   *Zilina, Slovakia*

BACHELOR IN NATURE PROTECTION AND LANDSCAPE MANAGEMENT   *June 2014*

• **Telemark university collage**, Bø i Telemark, Norway — *Erasmus study of Friluftsliv (Outdoor life) - spring 2012*

Skills

Programming languages   Python, Dart, Kotlin, Swift, Java, SQL, C, LaTex

Frameworks   Flutter, Django, Flask, Keras/TF, WordPress

DevOps   Docker, Kubernetes, Google cloud platform, Linux administration

Experience

University of Oslo   *Oslo, Norway*

HEAD ENGINEER   *April. 2018 - PRESENT*

• Development of *Natur i Norge Guide* in collaboration with Rune Harvorsen and Artsdatabanken. The app is a concise synthesis of *Natur i Norge* textbooks presented in an interactive manner. It's main objective is to help professional mappers identify which nature type they encounter while mapping in the field. The app is written in Flutter and available on the web, Android and iOS

University of Oslo   *Oslo, Norway*

EXECUTIVE OFFICER   *Jan. 2018 - PRESENT*

• Development and maintenance of a citizen science project called *Natur i Endring* (made in collaboration with DNT, NHM and Norsk Fjellsenter and financed by Sparebankstiftelsen). The project consists of a mobile app for Android and iOS (written in Flutter). Alongside the frontend apps, I created and now maintain kubernetes cluster (running on Google Kubernetes Engine) with Django backend and PostGis database to handle the data collection and automated data analysis. This project has been awarded *Forskerforbundets Hjernekraft prisen* by the The Norwegian Association of Researchers

Hewlett-Packard   *Prague, Czech Republic*

LINUX ADMINISTRATION LECTURER   *Jul. 2009 - Aug. 2010*

• Lecturing one week long courses of linux administration for an enterprise's IT staff. Lectures were designed as a interactive way of learning starting with basic commands and system overview, and ending with kernel compilation

Self-employed   *Martin, Slovakia*

WEB DEVELOPER   *Jan. 2008 - Apr. 2019*

• Developed multitude of webpages based on WordPress framework for small local businesses. Here are some examples.
  sjoormen.no - Webpage for promotion of Garvikstrondi camping (Seljord, Norway)
  classervice.sk - Webpage for local taxi service (Martin, Slovakia)

Apple retailer   *Martin, Slovakia*

IT TECHNICIAN   *Apr. 2007 - Aug. 2008*

• Worked as an IT technician for small Apple retailer.

Projects

NiN mapping

Jul. 2020

- Took part in *Natur i Norge* mapping study in Karasjok (Norway) as a part of GEco group under NHM - UIO.
- The project was based around the mapping of a study area by multiple mappers, and subsequent analysis of mapping inconsistencies.

GIS data scrubbing and analysis

Jan. 2018 - PRESENT

- Django based solution for GIS data gathering from legacy sources
- Personal project that gathers forestry data in Slovakia from old public servers where the only public option to access the data is through Silverlight web app. This solution gathers the available data while keeping track of sparse changes in time. Metadata for individual polygons are gathered from .NET server, decoded from binary XML files and stored in organized PostGis database.

Android app for camping

Jul. 2017 - Aug. 2017

- App designed to support exploration of natural surroundings for tourists in Garvikstrondi camping (Seljord, Norway). Google Play store
- Offline-capable map including tracks of hikes in the area with detailed descriptions

Accelerometric data analysis

Aug. 2015 - Jul. 2017

- Unsupervised machine learning project for analysis of accelerometric data from brown bear (*Ursus arctos*) to identify distinct animal behaviors. Project used Keras library for deep neural networks

Publications

Conference paper

Nov. 2019

- Bryn, A., Habberstad, M-Ø., Hjelle, A.M.A., Horvath, P., Langen, M.H., Lund, O., Torma, M. & Volden, I.K. (2019): Folkeforskning om klima og skoggrenser: www.naturiendring.no. In Lerkelund, H.E. (ed.) Forskning i Friluft 2018, page 277-283.

Exhibition

Jul. 2020

- Bryn, A., Dalen, T.G., Finne, E.A., Heiberg, H., Keetz, L.T., Nilsen, I.B., Parmentier, F-J., Snekkenes, C., Stordal, F., Aas, K.S., Alhuizen, I., Berntsen, T.K., Bjerke, J.W., Bright, R.M., Dyrrdal, A.V., Geange, S., Opel, T., Pirk, N., Puschmann, O., Tang, H., Torma, M., Vollsnes, A.V., Westermann, S. & Yilmaz, Y. (2020): Natur i endring. Museumsutstilling lagd for forskningsprosjektene EMERALD (NFR) og Natur i endring (Sparebankstiftelsen DNB). Stilles ut i Klimahuset ved Naturhistorisk museum (UiO) og Norsk Fjellsenter (Lom). Åpnet 26. Mars 2020. Naturhistorisk museum (UiO) og Bolt & Klock Utstillingsdesign, Oslo.

Presentations

EMERALD presentation

Oct. 2020

- Presentation of preliminary results from Karasjok NiN mapping project for EMERALD group at NHM

NIBIO presentation of *Natur i Endring* infrastucture

Apr. 2019

- Presentation of the underlying infrastructure for *Natur i Endring* project

Natur i Endring presentation

Jul. 2020

- Bryn, A., Dalen, T.G., Finne, E.A., Heiberg, H., Keetz, L.T., Nilsen, I.B., Parmentier, F-J., Snekkenes, C., Stordal, F., Aas, K.S., Alhuizen, I., Berntsen, T.K., Bjerke, J.W., Bright, R.M., Dyrrdal, A.V., Geange, S., Opel, T., Pirk, N., Puschmann, O., Tang, H., Torma, M., Vollsnes, A.V., Westermann, S. & Yilmaz, Y. (2020): Natur i endring. Museumsutstilling lagd for forskningsprosjektene EMERALD (NFR) og Natur i endring (Sparebankstiftelsen DNB). Stilles ut i Klimahuset ved Naturhistorisk museum (UiO) og Norsk Fjellsenter (Lom). Åpnet 26. Mars 2020. Naturhistorisk museum (UiO) og Bolt & Klock Utstillingsdesign, Oslo.