

DAMIAN OSWALD

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EDUCATION

Swiss Federal Institute of Technology (ETHZ)

September 2020 - April 2023

Master of Science: Agricultural Science

Zurich, CH

- Major in plant science and two minors, first in data science and technology for agricultural science, second in agricultural economics and policy.
- Exchange semester at the *Institut des sciences et industries du vivant et de l'environnement* (AgroParisTech) in Paris.
- Master's thesis: "Remote Sensing of Foliar Nitrogen in Californian Almonds". Details below.
- Master's degree awarded "with distinction".

Swiss Federal Institute of Technology (ETHZ)

September 2017 - September 2020

Bachelor of Science: Agricultural Science

Zurich, CH

- Bachelor thesis: "Phenotypic characterization of biofortified rice (*Oryza sativa*)".

SKILLS

Languages — (Swiss) German (native), English (proficient), French (good).

Programming and tools — *proficient*: R, Quarto, RStudio, Shiny, Latex, Python — *intermediate*: Java, SQL, Tensorflow/Keras, Git.

Knowledge focus — Machine learning and statistics for agriculture, data visualization, applied mathematics, model evaluation, plant protection, agricultural engineering, hyperspectral data analysis, remote sensing, biostatistics.

RELEVANT EXPERIENCE

University of California, Davis

October 2022 - May 2023

Research scholar

Davis, CA

- Master thesis in pursuit of the degree MSc ETH Agr. as a research scholar in the [Digital Ag Lab](#), working with a multidisciplinary agricultural engineering and data science team.
- Application of various machine learning models: Partial least squares, Gaussian process regression, deep learning and more.
- Model evaluation based on their performance to predict foliar nitrogen concentration of Californian almonds.
- Development of mechanistic radiative transfer models for data assimilation and transfer learning, i.e. the integration of physical knowledge into artificial intelligence.

Swiss Federal Institute of Technology (ETHZ)

May 2022 - December 2022

Student assistant

Zurich, CH

- Part time job in the agricultural economics and policy group [AECF](#).
- Developed the R package [ETH.OLP](#) which facilitates solving linear and non-linear optimization problems for agricultural economics students.
- Prepared tasks in R for student assignments and documented the problems, the package as well as the assignments in a script.

Agroscope

March 2021 - July 2021

Research intern

Zurich, CH

- Internship in the group of ecological plant protection in arable farming at Agroscope Reckenholz.
- Conducted various experiments on induced resistance to *Phytophthora infestans* in potatoes.
- Performed the statistical analysis, preparation and assistance in field applications and cultivation of the pathogen as well as various bacterial strains.

SUPPLEMENTARY EXPERIENCE

- Completion of the recruit- and sub-officer's school at the Swiss military in Emmen, Luzern (Anti-aircraft training unit 33).
- I worked on three different farms in Switzerland, totaling at about one year of farming experience.
- I worked as an editor for the weekly released agricultural newspaper *BauernZeitung* as a part time job besides the studies.
- Engagement for two decades in the Boy Scouts group in Chur, CH.