

Robert Bayer

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RESEARCH INTERESTS

Resource-constrained machine learning, Hardware accelerators, Low-precision machine learning, Sparsity in neural networks

EDUCATION

MSc. Computer Science

IT UNIVERSITY OF COPENHAGEN

Thesis: Techniques for increasing efficiency of Intel Neural Compute Stick 2

Copenhagen, Denmark | Sep 2021 - present

BSc. Data Science

IT UNIVERSITY OF COPENHAGEN

Thesis: Optimizing Neural Networks for Edge Devices

Copenhagen, Denmark | Sep 2018 - Jun 2021

WORK EXPERIENCE

IT UNIVERSITY OF COPENHAGEN | PH.D. FELLOW

Copenhagen, Denmark | Aug 2023 - present

- Research in TinyML, resource management, task colocation and performance analysis

IT UNIVERSITY OF COPENHAGEN | STUDENT PROGRAMMER

Copenhagen, Denmark | Jan 2022 - Jul 2023

- Research in resource-constrained machine learning
- Design of imaging payload powered by AI for DISCO satellites (first deployment NET April 2023)
- Performance analysis of machine learning tasks on edge devices

GLYCOSPOT | SENIOR SOFTWARE ENGINEER

Søborg, Denmark | Jan 2020 - December 2021

- Streamlining of production of SIRIUS, a custom portable spectrophotometer
- Development of a calibration software (2 hours time saving per device calibrated)
- Development of a customer-facing web application, with overview of the end-to-end process of enzyme activity screening

GLYCOSPOT | SOFTWARE ENGINEER

Søborg, Denmark | Oct 2017 - Dec 2019

- Reduced the size of standard commercially available spectrophotometer >10x, to enable in-field measurement of enzymatic activity
- Developed a cross-platform mobile application used as a controller for this device using Bluetooth Low Energy

UPVISION. | FULL-STACK WEB DEVELOPER

Senica, Slovakia | Nov 2016 - Jun 2017

- Development of web application for Slovak Economics University (~ 10,000 users); a website for GQ magazine Portugal; taxi-hailing mobile application

PATENTS

ENZYMATIC ACTIVITY ASSAY SYSTEMS AND METHODS [↗](#)

WO2022002328A1

SYSTEM AND METHOD FOR DETERMINING ENZYME ACTIVITY IN GRAIN MATERIAL [↗](#)

WO2022002327A1

PUBLICATIONS

R. BAYER, ET.AL - TPCX-AI ON NVIDIA JETSONS [↗](#)

TPCTC, Sydney, 2022