BRUNO JERKOVIC

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[Linkedin.com/in/bruno-jerkovic](https://www.linkedin.com/in/bruno-jerkovic/) | [Github.com/brunojerkovic](https://github.com/brunojerkovic) | E.U. nationality (no visa required)

**PROFESSIONAL SUMMARY**

As a data enthusiast with a **Master’s in Computing Science** and nearing the completion of a second **Master’s in Artificial Intelligence**, I bring extensive expertise in applying novel **data science** principles and **data analytics** best practices across diverse use cases. My experience in a range of programming languages, especially **Python** and **SQL**, equips me with the flexibility to seamlessly adapt to various technological stacks and environments. This blend of **technical skills**, coupled with **effective communication** and a proactive **problem-solving** approach empowers me to drive impactful outcomes in data-centric roles.

**SKILLS**

* **Python:** Data science libraries (PyTorch, Selenium, scrapy, scikit-learn, SciPy, NumPy, matplotlib, pandas, …)
* **Database management:** SQL, NoSQL (MongoDB)
* **MATLAB, R**
* **Software development:** Developed applications on platforms (mobile, frontend, backend, desktop, …)
* **Other:** Anaconda, Git, Docker, GCP (Buckets, Vertex AI, Big Query, VMs), PowerBI

**EXPERIENCE**

**DATA SCIENCE INTERN Jun 2023 – Present**

VonWood, Amsterdam

*Used: price estimation, machine learning, sklearn, XGBoost, Google Cloud Computing Platform – Vertex AI, Docker*

* Developed and deployed an end-to-end custom sklearn pipeline for product price estimation to help users with placing bids, accurately predicting 88% of the prices
* Improved the pipeline with additional feature engineering, scraping data, and creating custom outlier detection to increase the accuracy further
* Currently performing research for Artificial Intelligence Master thesis

**Title: *Deep Learning Recommendation Model for Index Price Feature Selection***

Introduced an innovative novel filter-based deep learning model to quickly select features and enhance the efficiency of the price estimation model during online retraining by 4 times.

**DATA SCIENCE STUDENT RESEARCH ASSISTANT Aug 2021 – Mar 2023**

Data Science Department at Radboud University, Nijmegen

*Used: computer vision, deep learning, PyTorch*

* Engaged in a collaborative multidisciplinary research project between Radboud University, Delft University and Glasgow University, where I contributed significantly as the second author on one journal and two conference papers
* Developed an unsupervised CNN for pixel-wise segmentation of image cracks in laminated composites, achieving 89% AUC, and implemented a pretrained ResNet model with 87% accuracy in classifying images of barely visible damage
* Created a prototypical CNN meta-learning model achieving similar accuracy as ResNet with 50% less training time on the same task

**EXCELLENCE FELLOW – MASTER THESIS Mar 2022 – Sep 2022**

European Laboratory for Learning and Intelligent Systems (ELLIS), Nijmegen

*Used: financial forecasting, deep learning, PyTorch, R*

* Performed research for Computing Science Master thesis

**Title: *Connectivity Estimation of Financial Time Series Using Deep Learning Models***

Performed a detailed comparison of the properties of existing and introduced a novel deep learning model for connectivity estimation on real-world stock market data and the synthetic datasets (generated from vector autoregressive model and stochastic volatility model) to find a model successfully recognizing more than 85% of interdependencies.

**SOFTWARE DEVELOPER Jul 2019 – Dec 2019**

Ericsson Nikola Tesla, Zagreb

*Used: JavaScript, C#, Unity*

* Contributed to the development of a cross-platform Web and Microsoft HoloLens app for server room management, incorporating path-finding and gesture-based color signaling features for enhanced user navigation and interaction

**EDUCATION**

**MSc in Artificial Intelligence Sep 2020 – Mar 2024 (estimated)**

Radboud University, Nijmegen, the Netherlands

*Current GPA (without thesis): 8.0*

*Notable projects: Search engine for COVID research papers, Desktop application for comparing meta-heuristic search algorithms*

**MSc in Computing Science (spec. Data Science) Sep 2020 – Apr 2023**

Radboud University, Nijmegen, the Netherlands

*Notable projects: Sentiment analysis of Tweets on wearing masks in public, Comparison of double*-*dueling DQN and vanilla DQN*

**BSc in Computer Science Sep 2017 – Jun 2020**

University of Zagreb, Zagreb, Croatia

***Bachelor Thesis****: Data Augmentation Methods for Cardiac Images (enhanced image augmentations using GANs)*

**PUBLICATIONS**

***Barely visible impact damage detection in composite structures using deep learning networks with varying complexities****,* Sep 2023

A. Tabatabaeian, **B. Jerkovic**, P. Harrison, E. Marchiori, M. Fotouhi

Journal: Composites Part B: Engineering

* Impact factor: 13.1, acceptance rate: 10%

***Detection and localization of barely visible impact damage in fiber-enforced polymer composites using a supervised deep learning algorithm****,* Jun 2023

A. Tabatabaeian, **B. Jerkovic**, F. Camargo, L. Echer, E. Marchiori, M. Fotouhi

Conference: 11th International Conference on FRP Composites in Civil Engineering

* Paper was highlighted during the opening ceremony as the most downloaded paper from the conference

***Data-driven structural health monitoring in laminated composite structures: characterization of impact damage****,* Aug 2022

A. Tabatabaeian, **B. Jerkovic**, E. Marchiori, M. Fotouhi

Conference: 6th Brazilian Conference on Composite Materials

**NOTABLE ACHIEVEMENTS**

**ELLIS Certificate 2022**

*Awarded in recognition for the completion of successful research practices during the ELLIS Excellence Fellowship*

**Swift iOS Certificate 2019**

*Certificate awarded by company Five (Zagreb) for the successful creation of the iOS course planner app*

**Scholarships 2017 – 2022**

*Received BSc scholarship for high-achieving STEM students and MSc Croatian scholarship for high-achieving students*

**High-School National Finals Placements 2017**

*Placed in the top 0.45% in Mathematics and top 0.43% in Physics exams**taken by all Croatian High School graduates*

**LANGUAGES AND INTERESTS**

Croatian (native), English (fluent), Dutch (intermediate)

Tennis, water-polo

Member of Mensa, the High IQ Society