Elijan J. Mastnak

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General Information

Citizenship: United States and Slovenia (EU member state)

Languages: English, Slovene, Spanish

Skills include: clearly-communicated technical writing; teaching introductory through undergraduate physics, mathematics, and programming; LaTeX, including real-time typesetting; scientific Python (`NumPy`; `Matplotlib`; `SciPy`); vector graphics (`Tikz`; Inkscape); shell scripting and Unix utilities; Vim/NeoVim; Git; Java.

Education

University of Ljubljana, Faculty of Math and Physics	Ljubljana, Slovenia
Bachelor of Science in Physics	October 2018 to September 2021
Newport Harbor High School	Newport Beach, CA
International Baccalaureate Diploma	September 2014 to June 2017

Employment

University of Ljubljana, Faculty of Math and Physics	Ljubljana, Slovenia
Private Contractor	June 2021 to present

Commissioned to typeset and translate the first-year physics curriculum to English using recorded Slovene video lectures. Motivation: make the physics program more approachable to foreign students.

TMG BMC	Ljubljana, Slovenia
Data Analyst and Software Developer	August 2019 to September 2021

- Analysis of 1D biomechanical time-series data from TMG, EMG, load cell, and MC sensors: detecting and quantifying twitch potentiation; quantifying contraction time, maximum muscle displacement, and rate of force development.

  Techniques include: numerical integration and differentiation, Lagrange interpolation, curve fitting, iterative methods for nonlinear equations, peak detection, filtering, statistical parametric mapping.
- Developed cross-platform user interface (in Java using Swing) to make above-described analysis accessible to non-technical users.
- Regularly worked with professional (including Olympic) athletes, mostly in track and field.

Newport Harbor High School	Newport Beach, CA
Two positions: *Academic Tutor* and *Soccer Coach*	August 2017 to June 2018

- Tutor in physics, math and programming for Newport Harbor High School's AVID program, which provides school-sponsored after-school tutoring to students.
- Assistant coach in the boy's soccer program for the academic year (as an alumnus and former captain); head coach of the Frosh-Soph team in the 2017-18 winter season.

Self-Employed	Newport Beach, CA
Private Tutor	September 2017 to June 2018

Worked as a private tutor in math and physics in the Newport Beach and Costa Mesa area; served students from Newport Harbor and Corona del Mar High School.