Benjamin Dettling

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Education

ETH	Zurich
B.S. Computer Science (in progress)	August 2021 - present

	Winterthur
Kantonsschule Im Lee	2015 - 2019
Matura with focus on Math/Physics and Ergänzungsfach Informatik	

Leadership & Work Experience

West Coast Swing Winterthur
Winterthur
April 2023 - present
Dance Teacher

- Taught people in privates, smaller/medium sized weekly classes, and bigger weekend workshops of up to 50 people
- Traveled across europe to participate in workshops (paris, lyon, budapest, milan, düsseldorf,...)
- Taught assistants how to teach themselves
- Participated and won in competitions, and taught specialized training for competition oriented dancing

KSW
Winterthur
August 2019 - Dezember 2019
Nursing Intern ("Pflegepraktikant")

Projects

AI-Powered Medical Diagnosis Web App
- Developed a full-stack web application that predicts medical conditions based on user symptoms, integrating a **NVIDIA AI API** for real-time diagnostics.
- Built an interactive and responsive frontend using **React, TypeScript, and Chart.js**, allowing for dynamic symptom inputs and graphical probability visualizations via bar charts.
- **Node.js & Express** backend to handle API requests, data persistence, and real-time updates.
- **CSS styling** for dynamic UI components

Game Data Aggregation System for Player Statistics (Python)
- Multi-step data pipeline for automated **web-scraping**, filtering, and analysis of game statistics
- Optimized speed performance with parallel processing/**multi-threading**
- Optimized workflow with **metadata tracking**, and structured CSV reporting
- Programmed in Python (using Pandas, ThreadpoolExecutor)

Deep Learning & AI Projects (PyTorch)
- Developed and fine-tuned deep learning models for **Computer Vision, NLP, and Reinforcement Learning**
- Implemented a **convolutional neural network (CNN)** for MNIST and trained a **MobileNet-based model** for cat-dog classification.
- Trained a **Graph Neural Network (GNN)** to solve mazes using message passing**.**
- Built a **DQN agent** that successfully learned to play **Flappy Bird** using **reinforcement learning**.
- Programmed using Jupyter Notebooks, Google Colab

Nonogram Solver (C++)
- Developed an algorithmic solver for Nonogram puzzles using logical deduction and backtracking
- Implemented constraint-solving techniques to deduce solvable cells before applying brute-force search

Additional Info

- **Languages:** Python, C++, Java, JavaScript, TypeScript, React, Node.js, CSS, HTML
- **Software:** WebStorm, VS Code, PyCharm, Google Colab
- **Languages:** German (mother tongue), English