Bc. Radek Cichra

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⌗ cichrrad
in cichrrad
Czech (Native), English (Fluent), Spanish (Basic)

Objective

M.Sc. student specializing in **High-Performance Computing (HPC)** and **System Programming**. Combining a rigorous mathematical background (FNSPE with Honours) with practical software engineering (FIT). Interested in **C++, Ruby, Parallel programming** and **(graph) algorithms** (TNL, CUDA, Kokkos, OpenMP).

Education

2024–Present	**Ing. (M.Sc.) in Computer Science – in progress**, *Czech Technical University – FIT*, Prague, Czechia **Master's Thesis:** Portable High-Performance Implementation of the Maximum Flow Problem using Kokkos (Device-agnostic parallel graph algorithm).
2024	**B.Sc. with honours in Applied Informatics and Computer Science**, *Czech Technical University – FNSPE*, Prague, Czechia **Bachelor's Thesis:** Parallel graph algorithms for GPU.

Experience

2023–2024	**Developer, Template Numerical Library (TNL)**, *Czech Technical University*, Prague Developing and implementing graph algorithms using TNL and CUDA as part of Bachelor's thesis
2024	**Co-Author, UTEI Course Scripts** Co-authored 38-page guide on Deterministic Automata, Turing Machines, and grammars
2023	**Teaching Assistant, ZPRO Course**, *Czech Technical University*, Prague Guided first-semester students in Python programming
2020	**English Tutor**, *Vachta Milevsko*, Milevsko Tutored grades 5–11 in English language skills

Skills

Languages	**C/C++, Python, Ruby**, Java, TypeScript, GDScript
Technologies	Linux, Git, OpenMP, CUDA, (C)Make, Kokkos, Godot
Other	College graduate level mathematics & computer science theory; Elder Scrolls Lore

Certifications & Courses

2024	English C1 Certificate – Common European Framework of Reference (CEFR)

2024–2025 Chaos Software Data Structures in C++ and Machine Learning Course (with certificate)

Highlighted Projects

To see other projects, feel free to visit my Github.

Ruby/C (Greybox) Fuzzer, *GitHub: cichrrad/apt-fuzzer*
- Designed a coverage-guided fuzzer with a **forking server** architecture with seed power profiles (**AFL**-inspired). Has custom C instrumentor which injects code to write coverage hits to shared memory, retrieved via IPC by the fuzzer.

CUDA Canny Edge Detector, *GitHub: cichrrad/ni-gpu-canny*
- Developed a fully parallelized edge detection pipeline on GPU. Optimized memory access using **Shared Memory tiling** for Gaussian blur and hysteresis thresholding kernels.

Morrowind Character sheet generator, *GitHub: cichrrad/morrow-gen*
- CLI/webUI (Sinatra) tool in Ruby for generating "Lore friendly" RP character sheets for TES III: Morrowind with support for AI generated backstories on the fly.

Interests

Music, Fantasy Literature, Linux Customization, Unnecessary Automation and **Game Completion** (Achievement Hunting)