



Árpád Goreity

Systems Software Engineer · ML Engineer · Data Scientist

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PROFILE

Engineer operating at the intersection of software systems, machine learning, and scientific data analysis. I build production data pipelines, ML systems, developer platforms, and mobile apps — moving comfortably from low-level systems work and database design to statistical modeling and stakeholder-facing scientific projects. *“The domain reigns supreme!”*

15+ yrs

Software development

6+ yrs

Data science bioinformatics

Lead

Mentor Public speaker

EXPERIENCE

Lead Bioinformatics Scientist

2020–2026

Medipredict Ltd.

- › Designed and implemented complete bioinformatics pipelines for microbiome and metabolomic analysis
- › Built internal tools used by MDs across the analysis workflow, with visualization and reporting for scientific teams
- › Coordinated requirements, implementation, QA, and deployment across multidisciplinary teams (biologists, geneticists, physicians, engineers)
- › Mentored interns and supervised academic thesis work

Data Platform Architect

2022–2026

S+H Informatikai Zrt.

- › Designed data analysis platform for ECG, PPG, SpO₂ datasets
- › Trained disease prediction models on proprietary and public data

Site Reliability Engineer

2022

NumberEight Ltd.

- › Built a reproducible, zero-setup developer environment
- › Implemented observability and monitoring using e.g. Grafana

iOS Application Developer

2016–2018

SciApps.io

- › Took part in complete architectural redesign and rewrite of *iCsekk*, the Hungarian Post's cheque payment app
- › Implemented features and fixed bugs in *Pay with Curl* iOS app

Independent iOS Developer

2010–2016

Self-employed

- › Built utility apps and tools for jailbroken devices

SELECTED PROJECTS

- › **Rust ORM/ODM** — design and implementation of object-database mapping abstractions
- › **Compiler engineering** — language tooling and compiler development, including public technical talks
- › **Disease prediction models** — ML systems for risk prediction on gut microbiome and plasma metabolite datasets
- › **Low-resource language LLMs** — fine-tuning and experiments with small models for Hungarian language tasks
- › **FPGA protein-structure analysis** — hardware-accelerated bioinformatics algorithms on Xilinx FPGAs using C++ HLS

CORE STRENGTHS

Rust	★★★★★
Python	★★★★★
Systems programming	★★★★★
Database design & SQL	★★★★★
Software architecture	★★★★★
Bioinformatics	★★★★★
ML engineering	★★★★★
Data science & stats	★★★★★
Teaching & mentoring	★★★★★
Technical leadership	★★★★★
Mobile (iOS)	★★★★★
DevOps & infrastructure	★★★★★

TECHNOLOGIES

LANGUAGES & ENGINEERING

Rust C++ Python Haskell TypeScript
Git Docker Compose DDD TDD

DATA & ML

PyTorch Burn HF Transformers Statistics
Feature engineering Scientific computing

DATABASES

Relational modeling Schema design
Normalization Advanced SQL ORM design

SYSTEMS & SECURITY

Compilers AVR MCUs HLS / FPGA (Xilinx)
Secure design Applied cryptography

EDUCATION

MSc, Data Science

Cum Laude · 110/110

University of Padua

Thesis: *Towards Personalized Disease Risk Prediction from Metagenome Analysis of the Microbiome*

BSc, Bionic Engineering

Excellent · 5/5

Pázmány Péter Catholic University

Thesis: *Design and FPGA Implementation of a Protein Structure Comparison Method Based on Alignment of Backbone Conformations*

TEACHING & SPEAKING

TEACHING ASSISTANT

- › Linear Algebra
- › Parallel Programming
- › Dynamical Systems in Biology

MENTORING

- › Intern thesis supervision

PUBLIC TALKS

- › Compiler development in Swift
- › Rust architecture & ORM design