



Martin Domaracký

Freelance

📍 Košice, Slovakia

Throughout the years, I worked on multiple projects ranging from hardware orchestration, data collection, data display to SQL Database-based applications for biomedical research. I'm experienced with building a robust application from backend-to-frontend in a highly parallelized, multi-event environment. All my projects were engineered using a CI/CD approach with unit test coverage.

At the moment, I work as a full-time Freelance

    domarm@comat.sk  +421 903 642 423

Work Experience

Jan 2022 - Now



Freelance

comat.sk

- Focused on Python-based projects
- Hardware controls applications including backend and frontend (PyQt5+)
- Client-Server applications placed in a highly parallelized environment
- SQL-based applications
- Data mining, reformatting, real-time plotting

Jul 2015 - Dec 2021



Software engineer

Center for Free-Electron Laser Science

- Developed modular and lightweight experiment control framework (Kamzik3) written in Python3 and PyQt5
- Authored controls for multiple experiments conducted all over the world (LCLS, Sacla, XFEL, ESRF, ...)
- Created software stack for three devices assembling Multilayer Laue Lenses. Covering the whole pipeline from recipe preparation to data evaluation
- Developed controls for tabletop beamline using Sigray X-Ray source
- Provided tools that automatize experiment logbook using Confluence and Rocketchat APIs
- Authored Python + MySQL based database tool, which was essential for COVID-19 virus screening in group of ~70 people
- Provided software for multiple laboratory setups
- Actively participating in experiments, providing on-site support

Jul 2014 - Jul 2015



Software engineer

Deutsches Elektronen-Synchrotron

- Developed hardware controls (Python2, Tango) with GU (PyQt4)I for beamline P02.1
- Automatized data collection pipeline
- Extensive collaboration with Physicists and instrument users

Sep 2009 - Jun 2014



Web developer

University of Pavol Jozef Safarik in Kosice

- Developed Portal of Virtual Collaboration, connecting people working in Slovak academia together
 - Collaboration with CALTECH, worked on the integration of videoconferencing system SeeVogh into Slovak academic domain
 - developed archiving and streaming platform for videoconferencing system SeeVogh in collaboration with Technical University in Kosice
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Education



The Technical University of Kosice

Sep 2009 - May 2011

Informatics - Engineering degree



The Technical University of Kosice

Sep 2006 - Jun 2009

Informatics - Bachelor's degree

Strong level skills

Python3 MySQL PyQtGraph Matplotlib PyQt5 PyQt6 YAML ZMQ PySerial Pint Threading
Multiprocessing HW APIs NI

Intermediate level skills

Numpy Pandas HTML CSS JS tkinter PHP Bash RegExp XML asyncio cv2 Tango GOOGLE API

Basic level skills

C C++ C# PyTorch Keras TensorFlow CUDA Docker

Languages



English – Fluent



Slovak – Native or Bilingual



Czech – Fluent



German – Beginner



Japanese – Beginner

References

Prof. Dr. Dr. H. C. Henry Chapman FRS - Division Director @ [CFEL](#)

“ Mr Domaracky impressed us with his comprehensive, wide-ranging and in-depth specialist knowledge, which he was always able to apply confidently and in a target-oriented manner in practice. Very recommendable is his very strong knowledge of the python programming language as well as his high level of expertise in developing software to control physical systems, including motors, sensors, large-area detectors and cameras, and interferometers.

✓ 2021-12-31 ✉ henry.chapman@cfel.de 📄 [Reference letter](#)

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Steve Aplin - Head of Data Department @ [XFEL](#)

“ Martin is a very skilled engineer, who has a talent for developing a clear and insightful understanding of the problem he is trying to solve. He has chosen to take a path without bosses and go freelance, a decision given his determination and creativity I can fully understand, and one which I strongly believe he will succeed in.

✓ 2021-10-07 ✉ steve.aplin@xfel.eu 📄 [Reference letter](#)

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Dr. Luca Gelisio - Head of Data Analysis @ [XFEL](#)

“ Martin is definitely the most professional person I ever met. He always met deadlines, even when time was clearly not enough. He did so because he felt the responsibility: his software has been – and will be – the key for the success of hundreds of experiments and the production of the most advanced MLLs ever produced.

✓ 2021-09-06 ✉ luca.gelisio@xfel.eu 📄 [Reference letter](#)

Publications

1. X-ray screening identifies active site and allosteric inhibitors of SARS-CoV-2 main protease
2021-05-06 | [Science](#)
2. Scanning Compton X-ray microscopy
2021-04-14 | [Optic letters](#)
3. Ptychographic X-ray speckle tracking with multi-layer Laue lens systems
2020-07-12 | [Journal of applied crystallography](#)
4. Evaluation of serial crystallographic structure determination within megahertz pulse trains
2019-12-04 | [Structural Dynamics](#)
5. Megahertz serial crystallography
2018-11-01 | [Nature Communication](#)
6. X-ray focusing with efficient high-NA multilayer Laue lenses
2017-11-26 | [Light: Science & Applications](#)
7. Simple convergent-nozzle aerosol injector for single-particle diffractive imaging with X-ray free-electron lasers
2015-03-31 | [Structural Dynamics](#)