

EDUCATION

Czech Technical University in Prague

Prague, CZ

Master's degree in Structural Engineering

Sep. 2024 - Feb. 2026

Relevant SE Coursework: Structural Design, Dynamics of Structures, Reliability of Structures, Numerical Analysis of Structures, Grad Concrete Structures, Grad Steel & Timber Structures

Bachelor's degree in Civil Engineering (Overall classification of final state examination: A)

Sep. 2020 - June 2024

Relevant CE Coursework: Structural Mechanics (FEM), Strength of Materials, Concrete Structures, Steel & Timber Structures, Hydraulics, Material Engineering

Relevant Math Coursework: Linear Algebra, Mathematical Analysis, Probability

EXPERIENCE

QARTA Architektura

Prague, CZ

Civil Engineer – Reconstruction of Českomoravská Metro Station in Prague

June 2024 - Present

- Developed and modified structural and civil engineering plans in AutoCAD & Revit for the reconstruction of a subway station within a high traffic urban environment.
- Performed quality control checks on architectural/engineering drawings and corrected errors in layouts, dimensions and technical details ensuring accuracy and compliance with technical norms and standards.
- Collaborated with multidisciplinary teams to ensure design integration and coordinated design drawings and documentation in compliance with Czech/European building codes.
- Participated in on-site surveys, reviewed construction quality and progress according to plans and consulted with contractors during construction phases.
- Performed structural analysis calculations for a steel support frame carrying an HVAC air handling unit.

Civil Engineer intern – Mixed use Residential & Parking Projects

Nov. 2022 - June 2024

- Created technical drawings and floor plan layouts for a new SOHO residential development in Holešovice, Prague under senior architect supervision.
- Designed a multi-storey parking structure in Pec pod Sněžkou, serving a hotel and ski resort visitors, including ramp geometry calculation, circulation and space optimization.
- Assisted with building permit documentation and partnered with multidisciplinary teams to align design and technical standards.

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Researcher – AI & Robotics in Construction

Sep. 2022 - Present

- Conducted applied research on the integration of artificial intelligence and robotic systems in construction processes, with the focus on automation, precision and digital fabrication.
- Operated and programmed a six-axis robot for experimental construction tasks using KUKA.sim and WorkVisual.

Freelance

Prague, CZ

Self-employed – Laser Scanning & Documentation

Sep. 2022 - Present

- Conducted building surveys using terrestrial laser scanners for architectural and engineering documentation.
- Processed point cloud data to generate as-built documentation for a hospital in Domažlice and created floor plans using tools such as AutoCAD and Revit.

PROJECTS

Bachelor thesis

CTU in Prague, Faculty of Civil Engineering

- Researched current and emerging applications of AI in the construction industry, including design automation, predictive maintenance, project scheduling and quality control.
- Explored the integration of AI with robotics, BIM, and digital twins to support construction automation and decision making.

Hackathon

- Represented CTU in the first and second ever construction-focused hackathon in the Czech Republic.
- Collaborated with Wienerberger to design a residential building made by integrating a bricklaying robot.

Residential reconstruction projects

- Conducted site surveying and measurements for residential reconstruction projects in Prague and Upstate New York.
- Created architectural and structural plans for the renovation of a family house in Prague, including layout optimization,

documentation for permitting, and technical detailing.

- Designed and documented the reconstruction of a lightweight timber-frame house in the U.S., considering North American building standards and practices.

SKILLS

CAD/BIM Tools: AutoCad, Revit, Autodesk Forma, Rhino

Structural Engineering software: Mathcad, SCIA Engineer, FIN EC software, Dlubal RFEM, Rhino – Grasshopper, Excel

Robotics & Programming Tools: KUKA.sim, WorkVisual

Analysis & Design: Seismic and wind load design, HVAC support framing, reinforced concrete, structural steel, timber systems

Building Code Familiarity: Eurocode, IBC, ASCE

Soft Skills: Interdisciplinary collaboration, site supervision, documentation accuracy, proactive design validation