

# Morteza Montahae | Resume

- » **Status:** Student at the FH Aachen ([AOS](#)), B.Sc. in Mathematics at the [PNU](#)
- » **Skills:** [Java](#) (awt, exception, io, nio, util, swing, beans), C#/.Net(protobuf ([OVF](#)), Numerics, Threading, Collections), C++, Python (collections, csv, cv2, io, json, math, matplotlib, multiprocessing, networkx, numpy, os, random, scipy, shutil, seaborn(-image),skimage, sklearn, keras, tensorflow, xml.etree, zipfile), HTML, LiquidJavaScript (Node (bootstrap, express, jquery, mustache, Sequelize)), SHACL, PHP, SQL (MariaDB, MySQL),  $\text{\LaTeX}$  (BibTeX, geometry, TikZ), Vim
- » **Languages**
  - **Persian:** Native language
  - **Arabic:** Elementary
  - **German:** Advanced
  - **Englisch:** Upper Intermediate
- » **Interest:** Variationsrechnung, Differenzialgeometrie, Data Science, Design Patterns
- » **Hobbys:** Wrestling, Football, Hiking, History, Mathematics



## » » » Profil

Graduate in Applied Mathematics with completed [MATSE](#)-Apprenticeship and advanced studies in Applied Mathematics and Computer Science. Practical experience in software development with a focus on differential geometry, database management, and data science. Proven ability to work independently and collaborate effectively in a team. Deep interest in applying mathematical methods to solve complex and real-world problems, as well as researching and describing mathematical models and their implementation possibly according to design pattern solutions.

## » » » Experience

10/2019 - 08/2023 **MATSE (Apprenticeship)** DAP [RWTH](#)

- » **Worked** on the development of an [NX](#) CAD library for generating Lattice in C# using [Protobuf](#) serialization
- » **Designed** workflow management of additive processes in a UML-compliant process modeling ([IDAM](#)) with Enterprise Architect ([EA](#))
- » **Participated** in the development of research data models in Python on the [Coscine](#) platform
- » Supported MAT.TRAFFIC GmbH as part of a MATSE [project work](#) in Python: Geo-detection of intersections for intelligent traffic systems and city planning using metadata from OpenStreetMap([OSM](#))

08/2009 - 09/2019 **Additional professional activities** [NAJA](#), [Frankenberg](#), [Dachser](#), [Event Probat](#), [UB-RWTH](#)

- |                              |                     |                      |                     |
|------------------------------|---------------------|----------------------|---------------------|
| » Sales Assistant (Bazaar)   | (06/2003 - 09/2005) | » Military Service   | (08/2009 - 04/2011) |
| » Temporary Worker           | (07/2012 - 10/2014) | » Delivery Assistant | (11/2014 - 06/2015) |
| » Waiter and Event Assistant | (11/2014 - 10/2019) | » Library Assistant  | (07/2016 - 09/2016) |

## » » » Education

10/2005 - 07/2009 **Bachelor's [Degree](#), in Applied Mathematics ([Note: 2.2](#))** PNU

- » Bachelor's thesis: Application of Nonlinear Conjugate Gradient Algorithms for Estimation of Electromagnetic Inversion
- » Focus: Linear Algebra, Numerical (ODE) and Mathematical Analysis, Mathematical Statistics, Graph Theory, Mathematical Models of Nature (ODE)

06/2011 - 10/2016 **Language Acquisition and Studies** RWTH

- » German [language acquisition](#) at the [Language Center](#) of RWTH (06/2011 - 07/2012)
- » Unfinished Mathematics M.S.c at RWTH (10/2012 - 10/2016): Participation in modules in [Image Processing](#), [Neuroscience](#), Numerics (PDE), [Optimization Theory](#), Calculus of Variations

10/2019 - present **Studies, Applied Mathematics and Computer Science** FH-Aachen

- » Focus: Linear Algebra, Stochastics, Numerics, Programming (OOP), Algorithms and Data Structures, Data Science, Databases, Software Engineering, Web and Communication Systems
- » [Bachelor's thesis](#) (on Germany): Data-driven exterior differential calculus on graphs applied to the discretization of elliptic partial differential equations
- » Anticipated graduation: 09/2024