# MUSTAFA, DAHAM

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## Technical Skills

**Programming Languages**: Java, Python, R, Java, C++ (Numerical Analyses), MATLAB, HTML/CSS, JavaScript, Shell
**Database Languages**: MySQL, MongoDB, PostgreSQL, STTL SPARQL Template Transformations for RDF and SPARQL
**Developer Tools**: VS Code, IntelliJ, Eclipse, SVN/Git, Docker, Jenkins, GitHub, JUnit
**Frameworks**: Spring Boot, Hibernate, Spring Data JPA, Spring Data JDBC,and Gurobi Optimizer.

## Education

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| **University of Bonn** | **Nov. 2019 – Sep. 2023** |
| *MSc in Geoinformation and Spatial development* | *Bonn, Germany* |
| **University of Erbil** | **Sep. 2010 – Sep. 2014** |
| *BSc in Geoinformation and Spatial development* | *Erbil, Iraq* |

## Experience

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| **Fraunhofer IAIS** | **May 2022 – Present** |
| *Software Developer* | *Bonn, Germany* |

- semantic representation and validation using Shacl (SHACL: Shape Constraint Language)
- java-generator RDF Metamodel to Java, java-serializer modules to serialize and deserialze instances of the Asset Administration Shell
- Conducted research on the integration of Industry 4.0 technologies.

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| **Research Assistant, (IGG - Universität Bonn)** | **May 2022 - Present** |
| *Student research assistant* | *Bonn, Germany* |

- geovisualization lab for geospatial simulation
- Pannellum.js for panoramic view

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| **Barzani Charity Foundation, (BCF - HQ Office)** | **Feb 2017 – Dec. 2019** |
| *Project Data Manager* | *Erbil, Iraq* |

- The work constituted to analyse the data of Humanitarian warehouses for the World Food Programme (WFP).
- Extracted Data using SQL and used excel to make analyses.

## Projects

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| **Java Data Science** \| *java, NLP, Kumo, Tablesaw, wordcloud* | **January 2021** |

- A personal project which comprises various datascience related tasks using java, reading data, cleaning and doing statistical analysis.
- The tasks involved how to read and parse text data and creating word clouds. Created heat maps for scattering plots for correlation analysis.

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| **LineSimplification Using Optimization** \| *Java, Gurobi, QGIS, Heuristics, Algorithms* | **November 2020** |

- Created a heuristic approach for simplifying countour lines using java and Gurobi Solver
- Analysed using QGIS to extract contour lines from a tiff map file.Devised a simple algorithm using java and used Gurobi to simplify the contour lines at polynomial $(O^k)$ time.

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| **GUI for PostGIS Queries** \| *Java, Eclipse, Java Swing* | **October 2020** |

- Implemented an application Object-oriented programming approaches were implemented for querying and updating data in a database on GUI .

## Academic Projects

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| **MSc Geodetic Engineering** | **Winter Semester 2019 – Present** |
| | *University of Bonn* |

- 3D Visualization of Cologne Land Market Analysis using java.
- Matrix Class Parameter estimation using C++.

## Languages

- German - Certified at B2 level/ Working Level Proficiency
- English - C1/Working Level Proficiency
- Arabic and Kurdish - Native or Bilingual Proficiency