

# Arash Javanmardi (B.Sc.)

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## ● WORK EXPERIENCE

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09/2021 – CURRENT Kaiserslautern, Germany

**STUDENT, CONSTRUCTIONAL ENGINEERING (M.SC.)** TECHNICAL UNIVERSITY OF KAISERSLAUTERN (RPTU)

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Research assistant (HiWi) in the department of Reinforced Concrete, RPTU

1. Project: *HumanTech (HT)*
  2. **Developer of RPTU AI Toolkit:** Data pipeline, AI model training, and automation of BIM model based on the trained AI model
  3. **Supervision** of data preparation (Point Clouds labeling)
  4. **Teaching assistant** in BIM modeling
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1. Study Project #1: **3D-printed concrete from recycled materials** (joint project with Université de Lille)
  2. Study Project #2: **Hierarchical Point Transformer (HPT):** A hierarchical approach to use Transformers for semantic segmentation of point clouds

09/2022 – CURRENT Kaiserslautern

**RESEARCH ASSISTANT (HIWI) AT DFKI** GERMAN RESEARCH CENTER FOR ARTIFICIAL INTELLIGENCE KAISERSLAUTERN

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Department: Augmented Vision (AV)

1. Project: *HumanTech (HT)*
2. **Introduction and interpretation of IFC rules in annotation and setting the standard for preparation of a consistent dataset**
3. Data preparation for ground truth: **Annotation** of RGB-D images

2014 – 2021 Schiraz, Iran

**PROCUREMENT OFFICER RJ TRADE (FAMILY BUSINESS)**

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1. Correspondence
2. Source finding/assessment
3. Calculation, invoicing, registration, and tax reporting

2012 – 2021 Remote

**WEB DEVELOPEMENT** FREELANCER

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1. Full-stack web development
2. System administration
3. Website design
4. Trading bots

## ● EDUCATION AND TRAINING

2015 Zahedan, Iran

**CIVIL ENGINEERING, CIVIL (B.SC. )** University of Sistan and Baluchestan

Study Projects:

1. Calculation and modeling of a 4-story reinforced concrete structure (Reinforced Concrete) (AutoCAD, ETABS, SAFE, Excel)
2. Calculation and modeling of a 6-story steel structure (Steel Structures) (AutoCAD, ETABS, SAFE, Excel)
3. Optimal and cost-effective road design between two specific cities based on the region's topography (Road Construction) (QGIS, Excel)
4. Cost calculation of a private residence (Project Management) (Excel)
5. Design of an above-ground water supply network and an underground sewer and drainage system for a specific city based on its historical population growth rate (Infrastructure) (hand-drawn plans, Excel)

**Address** Zahedan, Iran

2014 Shiraz, Iran

**PROJECT MANAGMENT** Sad & Omran ParsGostar Co.

Internship in the field of construction management at a bridge construction site

1. Review of detailed plans (AutoCAD)
2. Project management (MS Project)
3. Scheduling and cost management (MS Project & Excel)
4. Documentation of the processes

**Address** Nasr-Fazilat Bridge Construction Site, Shiraz, Iran | **Website** [www.sopg.ir/en/home](http://www.sopg.ir/en/home)

2013 Shiraz, Iran

**STRUCTURAL ANALYSIS** Petrochemical Industries Design & Engineering Co. (PIDEC)

Internship in the field of computer-aided structural design

1. Review of project specifications, standards, and licenses
2. Integration of the Iranian "National Building Regulations" (1392) in ETABS (CSI oAPI)
3. Structural design for piping facilities (ETABS)
4. Design and finalizing the details for welded and bolted connections (Tekla Structures)

**Address** Eram Str., Shiraz, Iran | **Website** [www.pidec.com/dev/en/PidecHome.aspx](http://www.pidec.com/dev/en/PidecHome.aspx)

## ● LANGUAGE SKILLS

Mother tongue(s): **FARSI**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
<b>ENGLISH</b>	C2	C2	C1	C1	C2
<b>GERMAN</b>	C1	C1	C1	C1	C1

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## ● DIGITAL SKILLS

### Computer Skills in Civil Engineering

REVIT | STAB2D | AutoCAD | SAP2000 | Tekla Structures | ETABS | eLCA | Life Cycle Assessment (LCA) | SAFE | Therakles | WUFI | RIB iTWO

### Microsoft Office

MS Project | MS Excel and VBA Programming - Advanced

## Data Science & ML

Python | SQL | Tensorflow | Java | Tableau Data Visualization | R | PyTorch | Cloud Compare (3D point cloud processing) | Bash | Blender | Git | TypeScript | Javascript (Node.js) | C++

## ● ADDITIONAL INFORMATION

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### VOLUNTEERING

09/2021 – CURRENT

**Volunteer Supervisor, Lebenshilfe Kaiserslautern mbH** Care and education for individuals with disabilities

2016 – 2017

**Military Service, Iranian Army** Military Teaching Officer  
Teaching English to army generals

### KNOWLEDGE AND SKILLS

#### Knowledge of Civil Engineering principles and standards, Programming, and Machine Learning

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1. In-depth understanding in areas: Structural analysis and design, non-linear structural analysis, shell structures, structural dynamics, seismic design, numerical analysis, finite element methods, pre-stressed concrete, concrete technology, efficient building and energy modeling, and BIM methodology.
2. Knowledge of European building regulations: Eurocodes, german construction contract procedures (VOB/B), state building regulations of Rhineland-Palatinate (LBauO), and fire protection regulations.
3. Familiar with the basics of economics, construction management and project management.
4. Proficient in computer programming: Linux server management (Apache, NGINX), C++, python, bash, and virtual environments (conda, docker).
5. Solid knowledge and practical experience in ML, Computer Vision: Design and implementation of the entire training pipeline; supervised machine learning, semantic segmentation of point clouds and RGBD, CNN, optimization (hyperparameter fine-tuning), model evaluation and iteration on it (W&B).
6. Data visualization: tableau, matplotlib, ggplot

### HONOURS AND AWARDS

**Machine Learning with Python – freeCodeCamp** Preprocessing · Linear Regression · Classification · CNN · TensorFlow · SciPy · Scikit-learn · Matplotlib

Link <https://freecodecamp.org/certification/Javanmardi/machine-learning-with-python-v7>

**Data Analysis with Python – freeCodeCamp** Data Science · Data Visualization · NumPy · Pandas · SciPy

Link <https://freecodecamp.org/certification/Javanmardi/data-analysis-with-python-v7>

**Javascript Algorithms and Data Structures – freeCodeCamp**

Link <https://freecodecamp.org/certification/Javanmardi/javascript-algorithms-and-data-structures>

**Scientific Computing with Python – freeCodeCamp**

Link <https://www.freecodecamp.org/certification/Javanmardi/scientific-computing-with-python-v7>