

Ebrahim Norouzi

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Kaiserallée 13b, 76133 Karlsruhe, Germany

Education

M.Sc, Materials Science and Simulation

Interdisciplinary Centre for Advanced Materials Simulation (ICAMS), Ruhr Universität Bochum, Germany

Oct 2017 - Dec 2020

Transcript of records

B.Sc, Materials Science and Engineering

Isfahan University of Technology, Iran

Oct 2012 - Oct 2016

Transcript of records

Professional Experiences

Full time Researcher

FIZ Karlsruhe - Leibniz Institute for Information Infrastructure, Eggenstein-Leopoldshafen

Supervisors: Dr. Jörg Waitelonis, Prof. Dr. Harald Sack

May 2022 - Present

- Development of standardized materials ontologies and implementation of knowledge graphs
- Involved in Platform MaterialDigital and NFDI-MatWerk projects

Full time Researcher

Fraunhofer Institut für Werkstoffmechanik IWM, Freiburg

Supervisors: Dr. Joana Francisco Morgad, Dr. Dirk Helm

January 2021 - March 2022

- Developing wrappers for open simulation platform and Web Graphical User Interfaces for the Marketplace web platform
- Ontology matching and evaluation and Workshop organization
- Involved in SimDOME, APACHE, and OntoCommons projects

Research Assistant

Fraunhofer Institut für Werkstoffmechanik IWM, Freiburg

Supervisors: Lukas Morand, Dr. Dirk Helm

October 2019 - December 2020

- Identifying parameters of the material model using machine learning and optimization algorithms
- Nominated for the award "Werkstoffmechanik-Preis 2021 des Fraunhofer IWM" for my Master thesis

Research Assistant

Max-Planck-Institut for Iron Research, Düsseldorf

Supervisor: Dr. Michael Herbig

July 2018 - September 2019

- Cluster analysis of APT Big data derived from phase separated Bulk Metallic Glasses using Machine learning algorithms such as Kmeans, GMEM, DBSCAN and HDBSCAN.

Research Assistant

Lehrstuhl Werkstoffwissenschaft, Ruhr-Universität Bochum

Supervisor: Dr. Jan Frenzel

February 2018 - July 2018

- In this short project I used Image processing and Deep Neural Network to count the number of dendrites in different sections of Ni-based superalloys produced by directional solidification.

Publications

Journal paper

Data-Driven Accelerated Parameter Identification for Chaboche-Type Visco-Plastic Material Models to Describe the Relaxation Behavior of Copper Alloys L. Morand, E. Norouzi, M. Weber, A. Butz, D. Helm Journal: Experimental Mechanics volume 64 pages 691-702 2024

In situ correlation between metastable phase-transformation mechanism and kinetics in a metallic glass J. Orava, S. Balachandran, X. Han, O. Shuleshova, E. Norouzi, et al. Journal: Nature Communications volume 12 DOI: 10.24435/materialscloud:nn-38 May 2021

Optimizing Grain Selection Design in the Single-Crystal Solidification of Ni-Based Superalloys F. Sadeghi, A. Kermanpur, E. Norouzi Journal: Crystal research and technology DOI: 10.1002/crat.201800108 October 2018

Conference/Workshop Papers

Enhancing Entity Alignment Between Wikidata and ArtGraph Using LLMs A.S. Lippolis, A. Klironomos, D.F. Milon-Flores, H. Zheng, A. Jouglar, E. Norouzi, A. Hogan In: SWODCH 2023

Knowledge Graph Based RDM Solutions: NFDI4Culture-NFDI-MatWerk-NFDI4DataScience H. Sack, T. Schrade, O. Bruns, E. Posthumus, T. Tietz, E. Norouzi, J. Waitelonis, H. Fliegl, L. Sohn, J. Tolksdorf, J.J. Steller, A.A. Guzmán, S. Fathalla, A.Z. Ihsan, V. Hofmann, S. Sandfeld, F. Fritzen, A. Laadhar, S. Schimmler, P. Mutschke 2023

Posters

OAEI Machine Learning Dataset for Online Model Generation S. Hertling, E. Norouzi, H. Sack 2023

Ontology development by domain experts using an entry-level example E. Norouzi, J. Waitelonis, M. Niebel, T. Hanke, T. Huschle, B. Bayerlein, T. Bjarsch, H. Birkholz, H. Sack MSE 2022 - Symposium Darmstadt Germany September 2022

Atom Probe Tomography Characterization of Phase-Separated Zr-Al-Cu-Fe Bulk Metallic Glass E. Norouzi, Sh. Balachandran, M. Kühbach, M. Herbig and D. Raabe 10th European APT Workshop Max-Planck-Institut for Iron Research Düsseldorf Germany November 2018

Others

Master Thesis: *Analysis and application of machine learning approaches to identify parameters of a visco-plastic material model based on numerical and experimental data of copper*
E. Norouzi, Prof. A. Hartmaier, Dr. D. Helm April 2020

Skills

- Semantic Web: OWL, RDF, SPARQL
- Programming Languages: Python (Rdflib, Tensorflow, Scikit-learn, Celery, PyQt5, Django, Django rest framework), C++
- Database: SQL, Redis, Semantic graph database
- Front-end Development: React, Angular, Redux, Axios, Bootstrap
- Materials Science related: Thermocalc, Abaqus, COMSOL
- Others: Docker, Protege, Git, LaTeX

Hobbies and Interests

- Watercolor painting
- Playing the ukulele
- Running, Ping-pong, and swimming

Languages

- English: Advanced
- Deutsch: B2
- Persian: Native