

Seyed Amir Hosseini Beghaeiraveri

Laboratory for Foundations of Computer Science - LFCS

School of Informatics

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Education

- **Ph.D.** - Heriot-Watt University, MACS Edinburgh, UK
Major: Knowledge Graph, Big Data, Data Quality, Provenance 2020–2023
Thesis Topic: Towards Automated Technologies in the Referencing Quality of Wikidata
Supervisors: [Dr. Alasdair Gray](#), [Dr. Fiona McNeill](#) (University of Edinburgh)
Summary: The study of the trustworthiness in Wikidata as one of the large and multi-topics open-source knowledge graphs is one of the existing gaps. The overall purpose of this PhD is to evaluate and improve the quality of Wikidata references. There are some interesting questions like how has the increasing use of bots in Wikidata affected the quality of its references? How to effectively use new Relation Extraction technologies from texts to improve Wikidata referencing.
- **M.Sc.** - Sharif University of Technology (SUT), Computer Engineering Department Tehran, Iran
Major: Big Data and Randomized Algorithms, Computational Geometry, Distributed Systems 2013–2015
GPA: 17.35/20 (3.77/4)
Thesis Topic: Broadcast Efficient Verifiable Secret Sharing
Supervisors: [Dr. M. Izadi](#), [Prof. M. Ghodsi](#) (Internal Examiner)
- **B.Sc.** - Shahid Bahonar University of Kerman (SBUK), Computer Engineering Department Kerman, Iran
Major: Software Engineering, FPGA, Object-Oriented Programming 2007–2012
GPA: 17.07/20 (3.7/4)
Project Topic: Installing Operating System on FPGA Chips
Supervisor: Dr. V. Sattari

Research Experience

- **LFCS, University of Edinburgh (2023 - present):** Research on reasoning over massive knowledge graphs.
- **SWeL, Heriot-Watt (2020 - 2023):** Research on subsetting, data quality and referencing quality in knowledge graphs, especially Wikidata.
- **R&D at research institutes of SUT: (2016–2019)** Research, design, and development of the Application Layer security tools
- **Disys Lab, SUT (2013–2015):** Research on distributed cryptography, especially in Verifiable Secret Sharing, the effect of adaptive and dynamic adversaries, and round complexity of multiparty computations.

Publications

- **Seyed Amir Hosseini Beghaeiraveri**, Alasdair Gray, and Fiona McNeill. “RQSS: Reference Quality Scoring System for Wikidata” Submitted to the Semantic Web Journal Special Issue on Wikidata: Construction, Evaluation and Applications 2022
- **Seyed Amir Hosseini Beghaeiraveri**, Jose Emilio Labra Gayo, Andra Waagmeester, et al. “Wikidata Subsetting: Approaches, Tools, and Evaluation” Semantic Web Journal Special Issue on Wikidata: Construction, Evaluation and Applications 2023
- **Seyed Amir Hosseini Beghaeiraveri**. “Towards Automated Technologies in the Referencing Quality of Wikidata” In Companion Proceedings of the Web Conference 2022
- **Seyed Amir Hosseini Beghaeiraveri**, Alasdair Gray, and Fiona McNeill. “Reference Statistics in Wikidata Topical Subsets” In 2nd Wikidata Workshop with ISWC 2021
- **Seyed Amir Hosseini Beghaeiraveri**, Alasdair Gray, and Fiona McNeill. “Experiences of Using WDumpers to Create Topical Subsets from Wikidata” In 2nd International KGC workshop with ESWC 2020

- **Seyed Amir Hosseini Beghaeiraveri**, Mohammad Izadi, and Mohsen Rezvani. “Broadcast Complexity and Adaptive Adversaries in Verifiable Secret Sharing” Security and Communication Networks 2020. 2020

Teaching Experiences

Lecturer:

- Advanced Network Security; Heriot-Watt University. (Spring 2023)
- Interaction Design; Heriot-Watt University. (Fall 2022)
- Software Development OOP, Computer Systems; Heriot-Watt University. (Summer 2022)
- Foundations of Computer Science; Carpet Department of SBUK. (Fall 2012)

TA:

- **Heriot-Watt:** Big Data Management, Databases and Information Systems, Database Management Systems (with [Dr. Alasdair Gray](#)) - Hardware-Software Interface (with [Dr. Hans-Wolfgang Loidl](#)) - Advanced Network Security (with [Dr. Sasa Radomirovic](#)) - Computer Network Security (with [Dr. Mike Just](#)) - Introduction to Data Structures and Algorithms (with [Dr. Rob Stewart](#)) - Design and Code Project (with [Dr. Alistair McConnell](#)) - Web Programming (with [Dr. Benjamin Kenwright](#))
- **SUT:** Theory of Distributed Systems (with [Dr. M. Izadi](#))
- **SBUK:** Design of Object Oriented Systems (with [Dr. A. Bahrololoum](#)) - Operating Systems (with F. Afsari)

Talks & Seminars

- Let's write a schema together; [Wikidata Data Modelling Days](#) (November 2023)
- Hierarchical Subsetting + Query Partitioning; LFCs DB Seminar (November 2023)
- Introduction to Entity Schemas and Shape Expressions; [Wikidata Data Quality Days](#) (Jul 2022)
- Biohackathon: report on reviewing Wikidata subsetting methods; [Wikidata Data Reuse Days](#) (Mar 2022)
- Creating, maintaining and updating Shape Expressions as EntitySchemas in the Wikimedia ecosystem; [SWAT4HCLS](#) (Jan 2022)
- Referencing Quality Scoring System: Metrics and Pipeline; SWeL (Dec 2021)
- ISWC 2021 Report; SWeL - SICSA (Nov 2021)

Awards & Honors

- James Watt Ph.D. Scholarship Award from the School of Mathematical and Computer Science, Heriot-Watt University 2019
- Top GPA among all the B.Sc. software engineering incoming students of SBUK. Kerman, Iran. 2012
- Ranked 1st in the 8th Kerman laboratory physic Olympiad. Kerman, Iran. 2007

Projects

- Referencing Quality Scoring System (RQSS), Python, [GitHub](#).
- IEF: Content Management System, C#, [GitHub](#)
- PerfectPaint: Simulation of Microsoft Windows 7 Paint, C#, [GitHub](#)
- charter-724: Ticket Reservation System, java (Android Studio).

Technical Skills

- **Languages and Platforms:** Advanced C/C++, Java, Python, .Net (C#, ASP, WPF, ADO), Database (SQL, MongoDB, PostgreSQL), Web (HTML, CSS, Javascript, React, Vue.js), Semantic Web(RDF, SPARQL, ShEx, Neo4J, OWL), Cryptography, Assembly.
- **Technical Softwares:** GCC, Android Studio, MATLAB/Simulink, Jupiter, Microsoft SQL Management Studio, Proteos, Keil, Codevision, Bascom AVR, 80xx assembly compiler.
- **Processors & Controller Devices:** x64/x86, PowerPC, ARM (Raspberry Pi and assembly), AVR.