

# ZAHRA AMINOLROAYA (SHE/HER)

<https://zahramino.github.io/> @ z.aminolroaya@gmail.com

📍 Calgary, Alberta, Canada

in LinkedIn Profile

## EXPERIENCE

### Data Scientist (University Contract)

#### Clinical Research Unit, Cumming School of Medicine (UCalgary)

📅 May 2019 – Ongoing (Part time) 📍 Calgary, Canada

- Responsible for evaluating and interpreting client satisfaction data using a BERT transformer model based on Jira service desk tickets
- Creating predictive models for surgical outcomes based on clinical notes and patient mortality
- Web data pulling, text preprocessing, storage in AWS, and information extraction from structured and unstructured data using REST API and SQL
- Skills: • Python (Programming Language) • REST APIs • BERT • Transformers • TensorFlow • Hugging Face • Sci-kit learn • Spacy • NLTK • NumPy • Pandas • SQL • A/B testing • AWS s3 • Data Science

### Research Assistant

#### ASE Lab, University of Calgary (UCalgary)

📅 January 2019 – Ongoing 📍 Calgary, Canada

- Specializing in the design and evaluation of augmented and virtual reality (AR/VR) systems
- Utilizing design methodologies and user-centered evaluation techniques
- Skills: • AR/VR • Human Computer Interaction • Information Visualization • Research • Unity • C#

### R & D Engineer

#### Dataak

📅 Dec 2017 – Nov 2018 📍 Tehran, Iran

- Big data pulling, text preprocessing, storage, and information extraction from structured and unstructured data, data orchestration
- Experience with web data indexing and retrieval using SolrCloud
- Skilled in data management using the Airflow workflow management platform and Grafana
- Skills: • Apache Solr • SolrCloud • Apache Airflow • Grafana • SQL • Java • Rest APIs • Python

### Data Scientist

#### Dayche Data Mining Group

📅 Sep 2016 – Dec 2017 📍 Tehran, Iran

- Experience in utilizing NLP and ML techniques for data processing, feature extraction and analysis of a customer relationship management problem (CRM modeling) and getting insights from pharmacy data.
- Consulting a banking company for network analysis of fraud
- Skills: Unsupervised Learning • K-means • Natural Language Processing (NLP) • Data Science • R (Programming Language) • R Shiny • SQL

## INTERESTS

- Data Science
- NLP
- Data Engineering
- Extended reality (AR/VR)

## STRENGTHS

- Programming

Python C# SQL R JAVA  
Matlab

- WEB

REST API HTML / CSS Javascript

- Platforms

AWS Gephi Apache Solr & SolrCloud  
RedCap GitHub Unity Trello Jira  
Tableau

- Libraries

Hugging Face PyTorch tensorflow  
transformers spaCy scikit-learn  
NumPy Pandas NLTK R Shiny  
Apache Lucene D3.js

- Some Projects

Sentiment and Emotion Analysis (NLP)  
Customer Loyalty Categorization (ML)  
Information Propagation Detection (ML)  
Epilepsy Surgery Prediction (NLP)  
Death Prediction (ML)  
Plagiarism Detection (NLP)  
Pharmacy Data Unification (NLP)  
Data Indexing and Retrieval (Data Engineering)  
Epilepsy Pre-surgical Evaluation (VR)

- Others

Social Network Analysis Git  
Agile Development Apache Airflow  
Grafana CQL

---

## R & D Engineer

### Cyber Space Research Center at Shahid Beheshti University

📅 Aug 2015 – Sep 2016

📍 Tehran, Iran

- Developed skills in plagiarism detection using NLP techniques and trie-based data structure
- Familiarity with both relational and non-relational databases, such as SQL, Cassandra and Solr
- Skills: Natural Language Processing (NLP) · Plagiarism Detection · Data Science · NoSQL · Solr · C# · SQL

---

## SOME PUBLICATIONS

- [1] Alireza Talebpour, Mohammad Shirzadi Laskoukelayeh, and **Zahra Aminolroaya**. 2016. Plagiarism detection based on a novel trie-based approach. Forum for Information Retrieval Evaluation. Springer, Cham. DOI: 10.1007/978-3-319-73606-8\_8
- [2] **Zahra Aminolroaya** and A. Katanforoush. 2017. How Iranian Instagram users act for parliament election campaign? A study based on followee network, International Conference on Web Research (ICWR), pp. 1-6. DOI: 10.1109/ICWR.2017.7959297.
- [3] Lorans Alabood, **Zahra Aminolroaya**, Dianna Yim, Omar Addam, and Frank Maurer. 2022. A systematic literature review of the Design Critique method. Information and Software Technology (2022)
- [4] **Zahra Aminolroaya**, Wesley Willett, Colin B. Josephson, Samuel Wiebe, and Frank Maurer. 2022. Watch The Videos Whenever You Have Time: Asynchronously Involving Neurologists In VR Prototyping, AVI Conference 2022. DOI: <https://doi.org/10.1145/3531073.3531181>
- [5] **Zahra Aminolroaya**, Seher Dawar, Colin B. Josephson, Samuel Wiebe, and Frank Maurer. 2020. Virtual Reality for Understanding Multidimensional Spatiotemporal Phenomena in Neuroscience. In Companion Proceedings of the 2020 Conference on Interactive Surfaces and Spaces (ISS '20). Association for Computing Machinery, New York, NY, USA, 85–89. DOI:<https://doi.org/10.1145/3380867.3426423>

---

## HONORS

### Alberta Innovates Graduate Student Scholarships

📅 2020

📍 Calgary, Canada

- Amount: \$18,000 for the first year and \$31,000 for the second year

---

### Alberta Graduate Excellence Scholarship (AGES)

#### International students

📅 2020

📍 Calgary, Canada

- Amount: \$15000

---

Ranked 3rd among all Undergraduate and graduate (BS, MSc)

### Shahid Beheshti University

📅 2014, 2016

📍 Tehran, Iran

- Entered graduate school without any entrance exam

---

## EDUCATION

### PhD. in Computer Science

#### University of Calgary

📅 January 2019 – April 2023

- Thesis Topic: Immersive Environments for Understanding an Event Propagation in Space and Time
- Supervisors: Frank Maurer, Ph.D and Samuel Wiebe, MD
- GPA 4/4

---

### M.Sc. in Computer Science

#### University of Shahid Beheshti

📅 2014 – 2016

📍 Tehran, Iran

- Thesis Topic: Uncovering the Structure and Temporal Dynamics of Information Propagation
- Supervisor: Ali Katanforoush, Ph.D
- GPA 4/4

---

### B.Sc. in Computer Science

#### University of Shahid Beheshti

📅 2010 – 2014

📍 Tehran, Iran

- GPA 4/4

---

## VOLUNTEER EXPERIENCE

### Presenter

#### 1st Canadian Pediatric SEEG Course

📅 2022

📍 Calgary, Canada

---

### Vice-President Academic

#### Computer Science Graduate Society - UCalgary

📅 2020 – 2021

📍 Calgary, Canada

---

### Graduate student representative

#### Computer Science Graduate Affairs Committee - UCalgary

📅 2020 – 2021

📍 Calgary, Canada