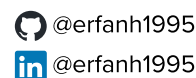


# Erfan Hosseini Sereshgi

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## ALGORITHM ENGINEER

A software developer with notable research experience in computational geometry and algorithm development, in particular, geospatial algorithms and graph/shape comparison methods.

## KEY COMPETENCIES

Algorithm Design  
Programming  
GIS

Data & Analytics  
Software Engineering  
Statistics

Map Construction  
Computational Geometry  
Optimization

## PROFESSIONAL EXPERIENCE

### Tulane University

2018 - present

#### Graduate Researcher

2018 - present

- Published 5+ papers in top venues such as SoCG, WADS and ACM SIGSPATIAL
- Received Summer Graduate Award from Connolly Alexander Institute for Data Science (Data Hub) in 2023
- Received Best paper award from ACM SIGSPATIAL International Workshop on Spatial Gems in 2021
- Contributed 3000+ lines of infrastructural code to 4 organizational projects and co-mentored 5 undergraduate researchers

#### Data Analyst - LA-CEAL NIH Project

2021

- Was part of the group that received \$1 million NIH grant to engage with communities hardest hit by COVID-19 among 12 total entities that received such a grant.
- Collected and labeled social media data of more than 25,000 users using the state-of-the-art NLP and machine learning practices.
- Established and documented a framework for collecting and labeling the social media activities for future research.

#### Research Software Engineer - School of Public Health and Tropical Medicine

2021

- Implemented and maintained a python program to manage and classify collected GPS data from 100+ patients based on census data, crime reports and public maps.

#### IT Specialist - Pre-college Program

Summer 2020

- Ensured high availability and uptime for the program's online platform, with a target of 99.9% uptime, with less than 10 minutes to acknowledge and less than 30 minutes to resolve issues.
- Helped generate revenue by enabling online courses and programs in the beginning of the 2020 pandemic, which estimated to be \$100k.

### AIIESEC in Iran

2017 – 2018

#### Jr. Product Manager

- Led a team of 3 developers in the creation of a customer support chatbot that offered 24/7 assistance and resolved up to 75% of submitted issues within 24 hours.

### Moduland

Summer 2017

#### Front-end Developer Intern

- Designed and developed a responsive and modern website under Google's Material Design guidelines which increased the company's exposure to the clients roughly 60%.

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## EDUCATION

**Ph.D. in Computer Science**  
Tulane University - New Orleans, LA

2018 - Expected May. 2024

**B.Sc. in Computer Science**  
Amirkabir University of Technology (Tehran Polytechnic) - Tehran, Iran

2014 - 2018

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## CERTIFICATIONS

### Java Programming

Amirkabir University of Technology (Tehran Polytechnic)

### Android Development

Amirkabir University of Technology (Tehran Polytechnic)

### Web Development and Web Design

Amirkabir University of Technology (Tehran Polytechnic)

### Group1. Biomedical Researchers

CITIprogram.org

### Group4. IRB, Biomedical Research

CITIprogram.org

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## TECHNICAL SKILLS & LANGUAGES

### Programming Languages:

Python, C++, Java, JavaScript, SQL, R

### Web Tools:

HTML, CSS

### Frameworks & Other Tools:

GDAL, Pytorch, Pandas, Numpy, Pygame, Git

### Applications:

QGIS, Visual Paradigm, Android studio, Adobe Photoshop, Adobe Illustrator

### Languages:

English (fluent), Persian (native), Arabic (intermediate)

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## PUBLICATIONS

**Drawing Reeb Graphs – International Symposium on Graph Drawing and Network Visualization (GD)** 2023

Erin Chambers, Brittany Terese Fasy, Erfan Hosseini Sereshgi, Maarten Löffler and Sarah Percival

**On Length-sensitive Fréchet Similarity – Algorithms and Data Structures Symposium (WADS)** 2023

Kevin Buchin, Brittany Terese Fasy, Erfan Hosseini Sereshgi and Carola Wenk

**Merging Roadmaps using Graph Distance Measures – Fall Workshop on Computational Geometry (FWCG)** 2022

Erfan Hosseini Sereshgi and Carola Wenk

**Graph Sampling for Map Comparison (received best paper award) – ACM Sigspatial, Spatial Gems** 2021

Jordi Aguilar, Kevin Buchin, Maike Buchin, Erfan Hosseini Sereshgi, Rodrigo I. Silveira and Carola Wenk

**Measuring Length-Preserving Fréchet Correspondence for Graphs in R<sup>2</sup> – Fall Workshop on Computational Geometry (FWCG)** 2021

Kevin Buchin, Brittany Terese Fasy, Erfan Hosseini Sereshgi and Carola Wenk

**Improved Map Construction using Subtrajectory Clustering – ACM Sigspatial, LocalRec** 2020

Kevin Buchin, Maike Buchin, Joachim Gudmundsson, Jorren Hendriks, Erfan Hosseini Sereshgi, Vera Sacristán, Rodrigo I. Silveira, Jorrick Sleijster, Frank Staals and Carola Wenk

**Computing Relevant Subtrajectory Bundles Faster – Symposium on Computational Geometry (SoCG), Young Researchers Forum** 2020

Erfan Hosseini Sereshgi and Carola Wenk