Ahmad Muhamad Senousi AHMAD

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Personal Details

- **Marital Status:** Married
- **Nationality:** Egyptian
- **Military Status:** Completed Military Service
- **Date of Birth:** December 20, 1992
- **Place of Birth:** New Valley, Egypt

Bio

Ahmad M. Senousi is currently an Assistant Professor with the Civil Engineering Department, Cairo University. received the B.Eng. and M.Sc. degrees in civil engineering from Cairo University, Cairo, Egypt, in 2013 and 2017, respectively, and the Ph.D. degree in geographical information science from the Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University, Hong Kong, in 2021. His research interests include geographic information science in general, spatiotemporal data mining, complex network analysis, multilayer network, urban structure, and transport geography.

Research Interest

- Geographic Information Science (GIScience)
- Spatiotemporal Data Mining
- Complex Network Analysis
- Multilayer Network
- Urban Structure
- Transport Geography

Education

- **PhD Degree   09/2017 – 11/2021**

  The Department of Land Surveying and Geo-Informatics (LSGI), The Hong Kong Polytechnic University (PolyU), Kowloon, Hong Kong.
  PhD Research Area: Modelling High-Frequency City Using Multilayer Network Analysis

- **MSc. Degree   07/2014 – 7/2017**

  Geomatics Engineering, Civil Engineering Department, Faculty of Engineering, Cairo University
  PhD Research Area: Maintaining gps position in urban areas for precise road navigation using the integration of GPS/low-cost IMU constrained in the existing of digital map
  MSc. Courses: Distinction, GPA (3.8/4.0)

- **BSc. Degree   9/2008 – 6/2013**

  Civil Engineering Department, Faculty of Engineering, Cairo University.
  Distinction with Honor, GPA (3.9 out of 4) and Degree 86.39% ranked 20th among 400 students.

Distinction in Graduation Project Highways, Traffic and Airport Engineering from 3/2013 to 6/2013. (One of the best graduation projects in Highways, Traffic and Airport Engineering)

Awards

- Faculty of Engineering Graduation Prize for distinguished students (graduating with a general appreciation of Distinction with Honor Degree), Cairo University 2013
- Cairo University Annual fellowships for distinguished undergraduate academic years 2012/2013
- Cairo University Annual fellowships for distinguished undergraduate academic years 2011/2012
- Cairo University Annual fellowships for distinguished undergraduate academic years 2010/2011
- Cairo University Annual fellowships for distinguished undergraduate academic years 2009/2010
- Cairo University Annual fellowships for distinguished undergraduate academic years 2008/2009

Attended Courses and Workshops

Course	Location	Date
Fundamentals of Blended Learning	FLDC, Cairo University, Egypt	August -2021
Critical Thinking	FLDC, Cairo University, Egypt	February -2021
The 2019 International Graduate Workshop on Geo-Informatics (IGWG2019)	Wuhan University, China	June-2019
International Post-Conference (HKSTS) Workshop on "Advances in Supernetwork Modeling and Mobility Pattern Analysis"	PolyU, Hong Kong	December-2018
The First International Conference on Urban Informatics 2017 (ICUI 2017)	PolyU, Hong Kong	November-2017
International Publication of Scientific Research	FLDC, Cairo University, Egypt	July -2017
Examination Systems and Student Evaluation	FLDC, Cairo University, Egypt	March -2017
Communication Skills in Education	FLDC, Cairo University, Egypt	January -2016
Credit Hour System	FLDC, Cairo University, Egypt	August -2015
Ethics of Scientific Research	FLDC, Cairo University, Egypt	March -2015
Using Technology in Teaching	FLDC, Cairo University, Egypt	December -2014

Computer and Instruments skills

- Digital Mapping Packages such as AutoCAD
- Earthwork and Infrastructure design software such as (Civil 3D, WaterCad and SewerCAD)
- Microsoft Office Applications (Word, Excel, PowerPoint) (daily use for research and work)
- Geographic Information Systems such as (ArcGIS, QGIS, and Global Mapper)
- Network Analysis Software (Gephi, muxViz, depthmapX, and networkX package in Python)
- Land Surveying instruments such as leveling, total station and GPS/GNSS instruments

Programming skills

- Python
- Pyspark
- MATLAB
- Android Application developing (Android Studio)

Memberships

Membership	Location	Date
Cairo University Club	Giza, Egypt	2013 – present
Egyptian Engineers Syndicate	Giza, Egypt	2013 – present
FLDC: Faculty and Leadership Development Center	Giza, Egypt	2013 – present
MECA Society for student activities, human development	Cairo, Egypt	2011 – 2013

and improving skills
- The Student Union of Civil Engineering Department   Cairo University, Egypt   2011 – 2013 (Class 2013)
- Balat City Sports Center   New Valley, Egypt   1999 – present

Employment Experience

- **<u>Graduate Research and Teaching Assistant Civil Engineering Department, Faculty of Engineering, Cairo University   9/2013 – 8/2017</u>**
  Primary responsibility:
    - Job duties included assistance in teaching the following undergraduate courses:
      - Surveying1
      - Surveying 2
      - Satellite geodesy, GPS, and map projection
      - Surveying Engineering BSc. Project
      - Surveying for Engineers (BSc. Credit Hour Program)
      - Geographic Information Systems (BSc. Credit Hour Program)

- **<u>Surveying Engineer at Surveying Research Laboratory, Faculty of Engineering, Cairo University (Part-time) 9/2013 – 8/2017</u>**
  Primary responsibility:
    - Participated in different construction and topographic surveying projects.
    - Precise monitoring and deflection measurements for bridges loading test for many highways Projects in Egypt such as:
      - Ahmed Orabi bridge
      - Misr – El-Ismailia bridges
      - Misr - El-Alexandria bridges
      - Misr - El-Suez bridges
      - Rod El-farag bridges
      - Sandob bridges

- **<u>Civil Engineering, Precision for surveying works (Part-time) 1/2016- 7/2017</u>**
  Primary responsibility:
    - Civil Engineer, Primary responsibility: Participated in different Surveying and construction projects.
    - Participated in Mapping of Egypt Railway network for automizaition the intersections.

Interest

- Sports: Football, Table Tennis, and Volleyball
- Reading
- Travelling

Publications

- **<u>Refereed Journal Articles (Published)</u>**
    - **Senousi, A. M.**, Liu, X., Zhang, J., Huang, J., & Shi, W. (2020). An empirical analysis of public transit networks using smart card data in Beijing, China. *Geocarto International, 1–21.* https://doi.org/10.1080/10106049.2020.1768594
    - **Senousi, A. M.**, Zhang, J., Shi, W, & Liu, X. (2021). A Proposed Framework for Identification of Indicators to Model High-Frequency Cities. *ISPRS International Journal of Geo-Information,* 10(5):317. https://doi.org/10.3390/ijgi10050317
    - Zhang, J., Liu, X., & **Senousi, A. M.** (2021). A multilayer mobility network approach to inferring urban structure using shared mobility and taxi data. *Transactions in GIS.* https://doi.org/10.1111/tgis.12817

- Liu, X., Huang, J., Lai, J., Zhang, J., **Senousi, A. M.**, & Zhao, P. (2021). Analysis of urban agglomeration structure through spatial network analysis and mobile phone data. *Transactions in GIS,* DOI: https://doi.org/10.1111/tgis.12755
- Liu, X., Zhang, J., Jia, T., **Senousi, A. M.**, Huang, J., Yin, L., & Zhang, F. (2021). Nighttime Vitality and Its Relationship to Urban Diversity: An Exploratory Analysis in Shenzhen, China. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing.* 10.1109/JSTARS.2021.3130763

- **Refereed Journal Articles (Under Revision)**
  - Liu, X., Yao, Y., Zhao, P., Law, S., **Senousi, A. M.**, Zhao, B., & Shi, W. (2021). Exploring 3D spatial morphology using multilayered space syntax, network science and Wi-Fi log data. *Environment and Planning B: Urban Analytics and City Science*. *(Submitted, 2nd round revision).*
  - Liu, X., **Senousi, A. M.,** He, L., Claramunt, C., Kwan M. P., Cheng, T., Batty, M., Wang, J., Ly, G., Strobl, J., Bandrova, T., Konecny, M., Chen, M. (2021). Geographic information science (GIScience) in the era of geospatial big data: Opportunities and challenges from a cyber perspective. *Nature Reviews Earth & Environment. (To be submitted).*
- **Refereed Journal Articles (Under Preparation)**
  - **Senousi, A. M.**, & Liu, X. (2021). Evaluating the high-frequency city: A case study of Beijing, China.
- **Workshops and Conferences Articles**
  - **Senousi, A. M.**, Liu, X., Zhang, J., & Huang, J., (2019). Exploring accessibility of public transit under travel time uncertainty using smart card data. In 2019 International Graduate Workshop on Geo-Informatics (IGWG2019), Wuhan, China.

References

- Dr. Xintao LIU (PhD Supervisor)

  - Assistant Professor, Department of Land Surveying and Geoinformatics, Hong Kong Polytechnic University
  - Email: xintao.liu@polyu.edu.hk

- Prof. Adel El-Shazly (M.Sc. Supervisor, Chief Supervisor)

  - Professor, Geomatics and Surveying Engineering, Department of Public Works, Cairo University
  - Email: shazlyadel@yahoo.com

- Dr. Mahmoud Abd Rabbou (M.Sc. Supervisor, Co-Supervisor)

  - Assistant Professor, Geomatics and Surveying Engineering, Department of Public Works, Cairo University
  - Email: mahmoud.abdelrahman@ryerson.ca

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