



Sanja Šćepanović

AI Research Scientist



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@miki7s

About

As a highly qualified professional with a diverse background in research institutes such as Nokia Bell Labs and CERN, and startups including ICEYE (that built the world's first radar satellite constellation) and Seven Networks (a mobile analytics startup based in Silicon Valley), I bring a unique set of skills and expertise to my research. With a PhD from Aalto University, completion of the EIT Digital Academy in business and innovation, and alumna status from the International Space University, I am well-equipped to tackle complex research projects at the intersection of computational social science and Earth Observation. Specifically, my research interests centre on using this combination of disciplines to improve health and well-being.

Google Scholar profile

Skills

Languages

Montenegrin★Native
English★Fluent
Russian★Very good
Finnish★Good

Current position

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|-----------|---|------------------------------------|
| 02 2023- | Beyond Fellow | AI4EO TUM/DLR Lab, Munich, Germany |
| | Responsible AI for Earth Observation for health and well-being. | |
| 06 2023- | Senior Research Scientist | Nokia Bell Labs, Cambridge, UK |
| 2018-2023 | Research Scientist | Nokia Bell Labs, Cambridge, UK |
| | AI Research Lab, Social Dynamics team (social-dynamics.net). | |

Education

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|------------|--|---|
| 02 2018 | PhD, computer science | Aalto Univ., Finland |
| | Thesis title: <i>Data science for sociotechnical systems</i> .
Supervisors: Aristides Gionis, Pan Hui, and Jukka K. Nurminen. | |
| 2014-2018 | Doctoral school on business and innovation | EIT Digital Academy, Belgium |
| | • courses and projects on innovation and entrepreneurship, | |
| 06-08 2012 | Space Studies Program (ISU SSP) | Intl. Space Univ., FL, US |
| | Florida Institute of Tech. and NASA Space Kennedy Center. | |
| 2009-2011 | MSc NordSecMob | Aalto Univ., Finland; Univ. of Tartu, Estonia |
| | Double-degree, cybersecurity and mobile computing. <i>Award of Merit</i> . | |
| 2003-2008 | Diploma in mathematics (4-year) | Univ. of Montenegro, Montenegro |
| | Theoretical and applied mathematics. <i>Graduated among top 10%</i> . | |

Professional and research experience

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|------------|--|-------------------------------|
| 11 2017- | | |
| 06 2018 | Data analytics and business development | ICEYE, Finland |
| | Deep learning models for segmenting satellite SAR radar imagery. | |
| 11 2016- | | |
| 02 2017 | Visiting scientist | CERN, Switzerland |
| | Applied machine learning to energy and computing logs to develop high-accuracy power models for data centers. | |
| 07-09 2016 | Teaching associate | Intl. Space Univ., Israel |
| | Supported the <i>Space Big Data</i> team project of 34 participants from over 10 countries. At Israel Institute of Technology, Technion. | |
| 09-12 2015 | Visiting researcher | TU Delft, The Netherlands |
| | Collaborated on the design and development of a social energy app, YouPower as the main practical contribution of the EU CIVIS project. | |
| 06 2011- | | |
| 06 2012 | Analytics engineer | SEVEN Networks, CA, US |
| | Part of the startup's global analytics teams. My reports were used in everyday business intelligence operations as well as when acquiring new customers. Developed an ETL solution to alert on the relevant changes in trends in the customer databases. | |
| 03-08 2009 | Analytics engineer, security engineer | Central bank, Montenegro |
| | IT sector: database transition, stability, and reliability. Payment Sector: experience with the Public Key Infrastructure system supporting financial transactions in the country. | |
| 10 2008- | | |
| 02 2009 | Analytics engineer, software engineer | Railway Transport, Montenegro |
| | Developed the first version of the company's website, supported setting up the new enterprise resource planning software, produced internal reports for the HR department. | |

Volunteer experience

2023	Track Chair for Conference on Health Inference and Learning, CHIL2023.
2023	Chair for Responsible AI for Earth Observation session, IGARSS2023.
2013-	Board of trustees at the Organization of Montenegrins Studying Abroad (OMSA).
2013-2017	National Point of Contact for the Space Generation Advisory Council.
2013	Deputy director of OMSA.

Awards

2020	Winning team of the <i>Nokia COVID-19 challenge</i> (£2K).
2017	ESA space challenge winning team in <i>Junction hackathon</i> (€3.5K).
2015	Finnish finalists in the <i>EIT Climate Launchpad startup</i> competition.
2014	Montenegrin <i>One Young World</i> ambassador (summit in Dublin).
2012	Intl. Space Univ. scholarship for <i>Space Studies Program</i> (€12K).
2009	European Commission <i>Erasmus Mundus scholarship</i> (€42K).
2004	Second place in the <i>national chemistry competition</i> .
2002	Award for the <i>best mathematician</i> in the High School.

Selected journal publications

Šćepanović, Sanja, Constantinides, Marios, Quercia, Daniele, and Kim, Seunghyun. "Quantifying the impact of positive stress on companies from online employee reviews." *Nature Scientific Reports*, 13(1), 1603 (2023).

Šćepanović, Sanja, Oleg Antropov, Pekka Laurila, Yrjo Rauste, Vladimir Ignatenko, and Jaan Praks. "Wide-Area land cover mapping with sentinel-1 imagery using deep learning semantic segmentation models." *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing* 14 (2021): 10357-10374.

Šćepanović, Sanja, Igor Mishkovski, Pan Hui, Jukka K. Nurminen, and Antti Ylä-Jääski. "Mobile phone call data as a regional socio-economic proxy indicator." *PloS One* 10, no. 4 (2015).

Šćepanović, Sanja, Luca Maria Aiello, Deirdre Barrett, and Daniele Quercia. "Epidemic dreams: dreaming about health during the COVID-19 pandemic." *Royal Society Open Science* 9, no. 1 (2022): 211080.

Aiello, Luca Maria, Daniele Quercia, Ke Zhou, Marios Constantinides, Šćepanović, Sanja, and Sagar Joglekar. "How epidemic psychology works on Twitter: Evolution of responses to the COVID-19 pandemic in the US." *Nature Humanities and Social Sciences Communications* 8, no. 1 (2021): 1-15.

Selected Conference proceedings

Šćepanović, Sanja, Joglekar, Sagar, Law, Stephen, and Quercia, Daniele, 2021. "Jane Jacobs in the Sky: Predicting Urban Vitality with Open Satellite Data." In *Proceedings of the ACM on Human-Computer Interaction*, 5(CSCW1), pp.1-25.

Šćepanović, Sanja, Aiello, Luca, Zhou, Ke, Joglekar, Sagar, and Quercia, Daniele. "Health Indices from Online Symptom Taxonomy." In *Proceedings of the International AAAI Conference on Web and Social Media (ICWSM 2021)*.

Šćepanović, Sanja, Enrique Martin-Lopez, Daniele Quercia, and Khan Baykaner. "Extracting medical entities from social media." In *Proceedings of the ACM Conference on Health, Inference, and Learning* (pp. 170-181), (CHIL 2020).

Constantinides, Marios, Šćepanović, Sanja, and Quercia, Daniele. "ComFeel: Productivity is a matter of the senses too." In *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT 2021)*.