Sofia Eleni Spatharioti

Postdoctoral Researcher, Microsoft Research NYC

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Education

Northeastern University, Boston, MA, USA (09/2015 - 12/2020)

Ph.D. in Computer Science

Thesis: *"Designing Effective Interfaces for Motivating Engagement in Crowdsourced Image Labeling"*

Selected Courses: Advanced Algorithms, Machine Learning, Human Computer Interaction

National Technical University of Athens, Athens, Greece (09/2009 - 06/2015)

Degree in Electrical and Computer Engineering (5-year study program, M.Eng. equivalent)

Thesis: *"Study, Extraction and Utilization of Relational Models among Virtual Entities in the Social Internet of Things"*

Work & Research Experience

Microsoft Research, New York City, NY, USA (03/2021 - Present)

Postdoctoral Researcher, Computational Social Science Group

References: Dan Goldstein & Jake Hofman

- Working on the Perspectives Engine project about generating helpful analogies for unfamiliar numbers.
- Developing computational models and crowdsourced approaches for automatically generating high quality reference objects for re-expressing complex and unfamiliar numerical information.
- My work has been deployed to Microsoft PowerPoint and Microsoft Word.

Northeastern University, Boston, MA, USA (09/2015 - 12/2020)

Research Assistant, Khoury College of Computer Sciences

References: Seth Cooper & Sara Wylie

- Conducted research at the intersection of Human Computer Interaction, Crowdsourcing and Games.
- Developed Cartoscope, an open-source platform for crowdsourcing for environmental justice, disaster response and citizen science, Tile-o-Scope Grid, an image matching web game, and Tile-o-Scope AR, an Augmented Reality tabletop toolkit for image labeling.
- Conducted user studies and published papers on topics such as the influence of task variety, interface design and collaboration/competition in user experience and engagement.

Microsoft Research, New York City, NY, USA (05/2018 - 08/2018 & 05/2019 - 08/2019)

Research Intern, Computational Social Science Group

- Worked on the Perspectives Engine project about generating helpful analogies for unfamiliar numbers.
- Designed and implemented a crowdsourcing platform and database for generating perspectives for helping people understand unfamiliar numbers encountered in news and other sources.

Northeastern University, Boston, MA, USA (Fall 2019)

Teaching Assistant, CS7340

Gave lectures and lead in-class activities. Mentored students towards reading scientific papers, giving presentations about various HCI concepts, and preparing HCI reports based on final projects.

Velti, Athens, Greece (10/2014 - 03/2015)

Junior Software Engineer

Part of the Innovation Department. Worked on *OPENi*, a European Union ICT Project, which is an open-source, web-based framework for integrating applications with cloud-based services and personal Cloudlets. Created an Authentication Server, as well as a fully functional web user interface for OPENi.

Selected Projects

- **Cartosco.pe:** Developed a web crowdsourcing platform for image labeling using Node.js, MySQL, JavaScript, AngularJS, CSS and HTML. Conducted analysis using R and Python. Empowered non-profits to set up projects using different task templates, upload data and generate real-time results and map visualizations.

Tile-o-Scope Grid: Developed an image matching web game for image labeling in Unity using C#. Implemented Reinforcement Learning algorithms for serving level difficulties that led to increased engagement and output levels.

Tile-o-Scope AR: Led a team of developers and designers to develop an Augmented Reality tabletop toolkit for image labeling using Unity and C#. Conducted user studies on the influence of AR and collaboration/competition in user experience and engagement.

Time Zone Perspectives: Collaborated with a multidisciplinary team to build a web tool for predicting and auto-completing time zone information for Microsoft Outlook. Our tool is currently being scheduled for deployment on Microsoft Outlook.

Housing Hub: Designed a web application for homebuyers in Boston, in collaboration with the Boston Mayor's Office and the Boston Home Center. Semester project for Computer-Human Interaction grad course.

Selected Publications

Sofia Eleni Spatharioti, Eliza Boetsch, Scott Eustis, Kutub Gandhi, Matt Rota, Archana Apte, Seth Cooper, Sara Wylie, (2022) *An Effective Platform for Crowd Classification of Coastal Wetland Loss*, In: Conservation Science and Practice.

Kutub Gandhi, **Sofia Eleni Spatharioti**, Scott Eustis, Sara Wylie and Seth Cooper, (2022) *Performance of Paid and Volunteer Image Labeling in Citizen Science — A Retrospective Analysis*, In: 10th AAAI Conference on Human Computation and Crowdsourcing. (HCOMP2022)

Sofia Eleni Spatharioti, Sara Wylie and Seth Cooper, (2021) *Exploring Q-Learning for Adaptive Difficulty in a Tile-based Image Labeling Game*, In: 3rd IEEE Conference on Games. (COG2021)

Kutub Gandhi, Josh Aaron Miller, **Sofia Eleni Spatharioti**, Archana Apte, Borna Fatehi, Sara Wylie and Seth Cooper, (2021) *A Comparison of Augmented Reality and Digital Versions of a Citizen Science Game*, In: 16th International Conference on the Foundations of Digital Games. (FDG2021)

Sofia Eleni Spatharioti, Borna Fatehi, Melanie Smith, Avery Rosenbloom, Josh Aaron Miller, Magy Seif El-Nasr, Sara Wylie, Seth Cooper, (2020) *Tile-o-Scope AR: An Augmented Reality Tabletop Image Labeling Game Toolkit*, In: 15th International Conference on the Foundations of Digital Games. (FDG2020)

Sofia Eleni Spatharioti, Sara Wylie and Seth Cooper, (2019) *Using Q-Learning for Sequencing Level Difficulties in a Citizen Science Matching Game*, In: Extended Abstracts of the 2019 Annual Symposium on Computer-Human Interaction in Play. (CHIPLAY 2019)

Sofia Eleni Spatharioti, Rebecca Govoni, Jennifer S. Carrera, Sara Wylie and Seth Cooper, (2017) *A Required Work Payment Scheme for Crowdsourced Disaster Response: Worker Performance and Motivations*, In: 14th International Conference on Information Systems for Crisis Response and Management. (ISCRAM 2017)

Sofia Eleni Spatharioti and Seth Cooper, (2017) *On Variety, Complexity, and Engagement in Crowdsourced Disaster Response Tasks*, In: 14th International Conference on Information Systems for Crisis Response and Management. (ISCRAM 2017) **Best Student Paper Award Nomination**

Technical Skills

Languages:
English: Fluent
French: Good
Greek: Native speaker

Programming Skills:
Python, JavaScript, R
Node.js, AWS
MySQL
CSS, HTML, AngularJS, React
C#, Unity
Figma, Adobe Photoshop

Awards & Misc

Awarded the Khoury College of Computer Sciences PhD Community Service award (2021).
Awarded the Dissertation Completion Fellowship from Northeastern University (2020).
Received the Khoury College Graduate Community Service Award (2019).
Nominated for Northeastern University's Outstanding Graduate Student Award in the category: Research: Life Sciences, Physical Sciences and Engineering (2018).
Presented Cartoscope at a citizen science exhibit at the Cleveland Museum of Natural History (2017).
PC Member: FDG 2021, FDG 2017. Reviewer: CitSci 2017, ISCRAM 2018, CHI PLAY 2019, IEEE Transactions on Games 2020, Citizen Science: Theory and Practice 2021, CHI 2022.
Organizer: NEU's Khoury PhD Women Group, Khoury PhD Social Hour, MSR-NYC Giving Committee.
Composer and performer for a music band, performed at various music halls.