

# Sofia Eleni Spatharioti

Postdoctoral Researcher, Microsoft Research NYC

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## Education

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**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

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**Microsoft Research**, New York City, NY, USA

(03/2021 - Present)

*Postdoctoral Researcher, Computational Social Science Group*

- ➡ 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.
- ➡ Part of 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*

- ➡ 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.
- ➡ 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










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- 💻 **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.

## Selected Projects (Cont.)

-  **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, Bornha 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**, Bornha 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 (CPE)  
French: Good (Sorbonne C1)  
Greek: Native speaker




### Programming Skills:

 Python, JavaScript, R  
 Node.js  
 MySQL  
 CSS, HTML, AngularJS  
 C#, Unity  
 Figma, Adobe Photoshop (Familiar)

## Achievements & Awards

-  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).

## Service & Misc.

-  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.