

Sofiya Semenova

sofiya@sofiya.io <https://sofiya.io> <http://github.com/ssemenova> <https://www.linkedin.com/in/novasofiya/>

EDUCATION

Ph.D. Student, Computer Science University at Buffalo, Buffalo, NY 08/18 - current
B.S. (High Honors) Brandeis University, Waltham, MA 08/13 - 05/17
Major: Computer Science, Minor: Physics
Thesis: *"Clouds That Think: Applications of Machine Learning Techniques for Elastic Databases"*

WORK EXPERIENCE

University at Buffalo

Graduate Research Assistant 08/19 - current
– Balancing performance goals and resource constraints for real-time, vision-based localization applications on mobile devices by using edge servers for prefetching localization and map data
– C++, Java (Android)
Graduate Teaching Assistant 08/18 - 05/19
– Data Structures - Fall 2018
– Systems Programming - Spring 2019

Google

Software Engineering Intern 06/19 - 08/19
– Developed and shipped a logistic regression model in Chrome to predictively prefetch the page(s) that a user will likely navigate to next, to decrease user-perceived latency on mobile devices
– C++, Python, Scikit-Learn, TensorFlow

edX

Software Engineer 06/17 - 08/18
– Implemented an API for AWS SNS notifications for processing video ingest tasks
– Improved VEDA performance via parallelization of ingest tasks
– Developed an API that tracks and displays users' course completion data to increase user first-week engagement, and ran A/B tests on proposed features to use the data
– Linux, AWS (RDS, ec2, SNS), Terraform, Docker, Python, SQL, MongoDB, Django, Javascript
Software Engineering Intern 06/16 - 08/16
– Improved accessibility of the edX platform for screen-reader and keyboard-only users, mainly through creating a new, entirely keyboard-accessible essay-writing module
– Python, Django, Javascript

Brandeis University

MakerLab Web Developer Team Lead 04/15 - 05/17
– Created a relational schema design, a user interface to access, search, and modify data, and a data visualization dashboard for the Brandeis Western Jihadism Project
Undergraduate Teaching Assistant 09/14 - 12/14
– Introduction to Computer Science (required introductory Java course)

PUBLICATIONS, WORKSHOPS, AND DEMOS

Ali J. Ben Ali, **Sofiya Semenova**, and Karthik Dantu. *"Platform Variability in Edge-Cloud Vision Systems."* 20th International Workshop on Mobile Computing Systems and Applications (HotMobile 2019).
Ryan Marcus, Olga Papaemmanouil, **Sofiya Semenova**, and Solomon Garber. *"NashDB: An Economic Approach to Fragmentation, Replication and Provisioning for Elastic Databases."* 37th ACM Special Interest Group in Data Management (SIGMOD) 2018.
Ryan Marcus, **Sofiya Semenova**, and Olga Papaemmanouil. *"A Learning-based Service for Cost and Performance Management of Cloud Databases (Demonstration)."* IEEE International Conference on Data Engineering (ICDE) 2017.

LEADERSHIP

Secretary for University at Buffalo's Computer Science Graduate Student Association 09/19 - current
Brandeis University's Computer Science Undergraduate Department Representative 09/15 - 05/16

SELECTED PROJECTS <https://sofiya.io/projects>

NashDB, an application to automatically fragment, replicate, and provision elastic, cloud databases. *Java*

WiSDoM, a demo for WiSeDB, a machine learning approach for cost/performance management for cloud databases. *Java*

Edgar Allan Poetry, a poetry generator using RNNs and Markov chains. Won Best Artificial Intelligence Hack at HampHack. *Python*