

Alexey Zagalsky

Curriculum Vitae



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Overview

I'm a full-stack developer, data scientist, and software engineering researcher. My expertise lies in designing and building collaborative software products 🚀, utilizing human computer interaction (HCI), information visualization, data science, and modern Web technologies.

Professional Experience

2019–2021 **Postdoctoral Fellow**, *Department of Technology and Information Management at the Coller School of Management*, Tel-Aviv University, Israel.

Project 1 (2019-2020): Applied econometric methods to investigate peer-economy and users' behavior on the Stack Overflow platform. More specifically, I used a Hidden Markov model to capture and investigate SO users' lifecycle stages, in order to examine how transitions between these stages affect user activity.

Project 2 (2020-2021): Designed and developed a web system, *Fusion*, for improved collaboration between domain experts and AI for tasks of text classification in the areas of cyber-security. By leveraging human-machine reciprocal learning, the system offers improved performance and explainability of the generated ML classification models. Tested the system on two case studies. First to identify illegal drug activities on Darknet forums, and second to identify expert hackers on a cybercriminal Darknet forum.

2013–2018 **Software Engineering Researcher (PhD)**, *Computer Human Interaction & Software Engineering Lab*, University of Victoria, Canada.

Conducting research focusing on the interplay between developers, tools, their activities, and how it affects collaboration and communication. My research formed a theory of distributed knowledge building and sharing in software developer communities—allowing for an understanding of *how software is built* and *why* certain tools and features are adopted over others.

- Led qualitative, quantitative, and mixed-method research: virtual ethnographic studies, case studies, interviews, surveys, focus groups, and data mining methods
- Collaborated with experts and international software engineering researchers
- Communicated our research through academic papers, blog posts, and by giving talks
- Mentored, managed, and supervised other graduate students in their research

2009–2013 **Software Engineering Researcher (MSc)**, Tel-Aviv University, Israel.

Designed and developed a code recommendation prototype tool, *Example Overflow*, that uses questions and answers from Stack Overflow to help developers find and use high quality existing code snippets. I surveyed developers to inform the design decisions for *Example Overflow*, and conducted lab experiments and usability testing to evaluate the tool. This tool helped me investigate opportunistic software development.

- Leveraged large data sets, web development, search algorithm development, human-computer interaction design, and more
- Research methods: lab experiments, think-aloud protocol, a survey, observations, and interviews
- Technologies: Java, jQuery, SQL, CSS, HTML, and Google App Engine

Education

2013–2018 **Ph.D.**, *Computer Science*, University of Victoria, Victoria, Canada.

Thesis topic: Knowledge building in software developer communities

2009–2013 **M.Sc.**, *Computer Science*, Tel-Aviv University, Tel-Aviv, Israel.

Thesis topic: Investigating opportunistic software development using a social media recommendation system

2004–2009 **B.Sc.**, *Computer Science*, Tel-Aviv University, Tel-Aviv, Israel.

Selected Professional Activities

2010–2016
(9 semesters)

Teaching Startup Programming, *University of Tel-Aviv (Israel, 2010-2013), Bar-Ilan University (Israel, 2010-2011), University of Victoria (Canada, 2014-2016).*

Taught and managed a hands-on, startup accelerator style, course for student teams. I recruited exceptional local industry mentors to work closely with the teams. In this course, students gained the skills needed to transform innovative ideas into working software projects utilizing advanced mobile, cloud, social, and web technologies—mastering human-centered design. Graduating students have gone to found their own startup companies (e.g., SCREEMO) or secure jobs in companies such as Amazon, Microsoft, and local startups; The course has been featured on the GitHub education blog; And, the course has inspired a similar course that is now offered at CMU; Topics included: (1) Web and mobile development (2) UI/UX design, design thinking (3) Testing for web developers (4) DevOps

Languages

Hebrew, *Fluent in written and spoken Hebrew.*

English, *Fluent in written and spoken English.*

Russian, *Fluent in spoken Russian.*

Development Tools and Languages

Languages *Java, Python, LaTeX, JavaScript, Vue.js, HTML, CSS, R, Go, C++*

Tools *Git/GitHub, Figma, InVision, Heroku, Firebase, VS Code, RStudio, Insomnia REST client*

DB *SQLite, MongoDB, PostgreSQL*

Selected Code Projects

2018 **AI Snake developed for the BattleSnake programming competition.**

Technologies: Go, Heroku, Docker

Source code: <https://github.com/alexeyza/chiseler-snake>

2013 **Predicting Stack Overflow tags, given only the question text and its title.**

Technologies: Python, MongoDB

Source code: <https://github.com/alexeyza/Kaggle-Facebook3>

2010 **A Ray Tracer implemented in Java.**

Technologies: Java, SWT

Source code: <https://github.com/alexeyza/raytracer>

2009 **Virtual USB Ethernet adapter for LPC2148.**

Technologies: Python, Tkinter

Source code: <https://github.com/alexeyza/lpc2148>

Selected Publications

A complete list of publications can be viewed at: scholar.google.ca/citations?user=WWYRn7AAAAAJ

2021 **The Design of Reciprocal Learning Between Human and Artificial Intelligence**, *Alexey Zagalsky, Dov Te'eni, Inbal Yahav, David G. Schwartz, Gahl Silverman, Daniel Cohen, Yossi Mann, Dafna Lewinsky.* 24th ACM conference on Computer-Supported Cooperative Work and Social Computing (CSCW), 2021

2016 **Disrupting Developer Productivity One Bot at a Time**, *Margaret-Anne Storey and Alexey Zagalsky.* In Visions and Reflections track of the 24th ACM SIGSOFT International Symposium on the Foundations of Software Engineering (FSE), 2016, ACM

Awards and Honors

2016, 2017 University of Victoria Graduate Award

2013, 2014 University of Victoria Graduate Fellowship

2011 Award for Academic Excellence and Achievement, Tel-Aviv University