

Lenka Pitonakova, PhD

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I am a senior software developer with team management experience and scientific background. My specialization is in robot behaviour programming, games and web development, artificial intelligence, agent-based modelling and distributed big data applications development. I am strongly result-driven and able to balance rigour with creativity. I value ego-less team work, clean code and efficient processes.

Technical And Transferable Skills

- **Very strong - applications and scripts:** C++, C, Python, Bash (over 6 years)
- **Very strong - web and databases:** PHP, MySQL, JavaScript (pure + ReactNative), HTML, CSS, REST APIs (over 6 years)
- **Other intermediate:** Objective-C (SpriteKit), PostgreSQL, C#, Java, MongoDB (over 2 years)
- **Research experience:** Neural networks, multi-agent systems, big data analysis (<http://lenkaspaces.net/info/publications>)
- **Team lead experience:** Project management, coaching, recruitment
- Good working knowledge of **software design patterns**
- Excellent **code documentation** and presentation skills

Work experience

Consultant & Senior Software Engineer

(Self-employed at Qubiq Interactive)

Feb 2020 - to date

Vancouver, Canada

Providing consultancy, software development and training services to clients from both industry and academia. Largest project: Ebay-like cross-platform mobile app with Django + PostgreSQL back-end.

Senior Robotic Systems Developer & Team Lead

(A&K Robotics)

Jun 2019 - Jan 2020

Vancouver, Canada

Simulation and robot software development in C++, ROS, Python and Bash. Leading a team of 10 software developers and AI researchers with strong emphasis on a collaboration-oriented culture and continuous learning. Created a new OKR-based project management process that was adopted across multiple teams. Coordinating production and deployment with other teams.

Research Associate in Applied Mathematics and Computer Science

(Dep. of Computer Science, University of Bristol)

Mar 2018 – April 2019

Bristol, UK

Research in unsupervised neural network learning for novelty detection. Developed a robot simulation (C++) and data analysis code (C++, Python). Responsible for project management and liaising with industry and academic stakeholders. Supervised post-graduate projects and mentored students in software development.

Research Associate
(*Bristol Robotics Laboratory*)

Oct 2017 - Feb 2018
Bristol, UK

Designed and developed an ecosystem of plugins for a distributed robot simulation environment (C++, V-REP) that facilitated research within the nuclear robotics domain at partner research institutions (The National Nuclear Laboratory, Univ. of Manchester, Univ. of Birmingham, Univ. of the West of England).

Doctoral Prize Research Fellow
(*Bristol Robotics Laboratory and Dep. of Electronics and Computer Science, University of Southampton*)

Mar 2017 - Mar 2018
Bristol, UK

Led an independent research project funded by the EPSRC. Developed foraging algorithms and data collection methods for a distributed e-puck robot system (C++, ROS, Bash, Python). Supervised post-graduate projects and mentored students in software development.

Data scientist, software developer
(*Flowminder Foundation*)

Oct 2015 - Feb 2016
Southampton, UK

Developed a distributed data analysis application (Python, Bash) utilized by the United Nations for natural disaster response. Participated in liaising about data collection, storage and security with a 2nd party mobile network provider. Trained an international team of data scientists in object-oriented software development and programming practices.

Full-stack web applications developer
(*Hurst MailAgent*)
Full time and part-time

April 2014 - Feb 2017,
Jul 2011 - Aug 2012
Hemel Hempstead, UK + remote

Designed and developed a website Content Management System (PHP, MySQL, JavaScript) and server-side customer website management system (Bash, MySQL). Also developed distributed data processing and user monitoring applications (ActionScript, PHP). Responsible for product design, development and project management.

Software developer: Junior to Mid-level
(*Edelman Digital and self-employed*)

Sep 2007 - Jul 2011
Luton and Brighton, UK

Worked on individual and international team projects within industry and academia, including on web applications, games, iOS and Android applications.

Awards and Distinctions

EPSRC Impact Accelerator Early Career Kick Starter Award (Development of Sketch BDRML 0.6)	£5,000	Dec 2018
University of Bristol Pump-Priming Grant (Development of Sketch BDRML 0.5)	£4,500	Jun 2018
EPSRC Doctoral Prize Fellowship	£35,000	Mar 2016
University of Southampton Pump-Priming Grant (Development of The Hive Mind game)	£500	Feb 2015
EPSRC Doctoral Training Centre PhD Grant	£66,000	Nov 2011
General Motors Academic Achievement Scholarship	£1,000	Jun 2008

Education

PhD in Collective Intelligence Design (University of Southampton)	Sep 2012 - Jan 2017 Southampton, UK
MSc in Evolutionary and Adaptive Systems (Distinction, University of Sussex)	Oct 2009 - Sep 2011 Brighton, UK
BSc in Computer Games Development (First Class, University of Bedfordshire)	Sep 2006 - Jul 2009 Luton, UK

Selected Software Projects (more on <http://lenkaspace.net/code>)

Dopple iOS and Android app <i>Roles: Project manager, Developer, Data Scientist</i>	Feb 2020 - to date
A ReactNative cross-platform app with Python / PostgreSQL back-end: https://www.dopple.com	
Sketch BDRML <i>Roles: Producer, Project manager</i>	Jun 2018 – Mar 2019
A desktop Java-based editor for the BDRML language: http://swarmdesign.lenkaspace.net/sbdrml/	
Stardust Colonies <i>Roles: Producer, Developer</i>	Mar 2013 - Jan 2015

A strategy game with its own C++ game engine and game AI based on fuzzy logic:
<http://stardustcolonies.lenkaspace.net>

The Hive Mind

Roles: Producer, Developer

Jan 2015 - Dec 2016

An educational Flash game about collective construction with robots:
<http://thehivemind.lenkaspace.net/>

pyCreeper

Roles: Developer

Nov 2017 – Mar 2019

An open-source Python library for data processing and plotting:
<http://pycreeper.lenkaspace.net>

Motosu

Roles: Project manager, Developer

Jun 2014 - Feb 2017

A content management and a web hosting system:
<http://motosu.co.uk/>

Creeper

Roles: Developer

Feb 2013 - Sep 2013

An open-source Java framework for agent-based simulations
<http://lenkaspace.net/code/libraries/creeper>