Lenka Pitonakova, PhD

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I am a senior software developer and a project management consultant with a background in games and web development, artificial intelligence, agent-based modelling and big data applications. I am strongly result-driven and able to balance rigour with creativity. I value ego-less team work, clean code and elegant solutions to complex problems.

Technical And Transferable Skills

- **Very strong – applications and scripts:** C++ (8 years), Python, Bash (10 years)
- **Very strong - web and databases:** PHP, MySQL, JavaScript, HTML + cross-platform CSS, REST APIs (15 years), PostgreSQL (3 years)
- **Very strong - iOS apps:** Objective-C, TestFlight and AppStore deployment (5 years)
- **Intermediate:** React Native (3 years), Java (2 years), Unreal Engine (1 year), C#, MongoDB (1 year)
- **Web & game design:** Adobe Photoshop (4 years), Adobe Illustrator (1 year)
- **Research experience:** Neural networks, multi-agent systems, big data analysis (http://lenkaspace.net/info/publications) (5 years)
- **Team lead experience:** Project management, coaching, recruitment (5 years)
- **Teaching experience** from BCIT (Canada) and universities in the United Kingdom (2 years)
- Great working knowledge of **software design patterns**
- Excellent **code documentation, communication and presentation** skills

Work experience

Founder & CEO
(Qubiq Interactive)

Jan 2020 - to date
Vancouver, Canada

Providing consultancy, software development and project management services to clients from both industry and academia. Largest projects: Lead on a cross-institution R&D project in autonomous aviation, Ebay-like cross-platform mobile app with Django + PostgreSQL back-end.

Faculty, Computer Information Technology
(British Columbia Institute of Technology)

Aug 2020 - Jun 2021
Vancouver, Canada

Instructor for the ACIT 2515 Objected Oriented Programming course. Taught three sets over 2 semesters. Adjusted and existing curriculum and created scripts for automatically marking programming labs and exams.

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
(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 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, including web applications, games, iOS and Android mobile apps.

Education

PhD, Simulation of Complex Systems (focus on Swarm Robotics)
(University of Southampton)

Sep 2012 - Jan 2017
Southampton, UK

MSc, Evolutionary and Adaptive Systems
(Distinction, *University of Sussex*)

Oct 2009 - Sep 2011
Brighton, UK

BSc, Computer Games Development
(First Class, *University of Bedfordshire*)

Sep 2006 - Jul 2009
Luton, UK

Selected Software Projects
(More on https://www.qubiqinteractive.ca/projects)

SwarmControl: A digital twin for autonomous UAVs
Roles: Developer

Jan 2021 - Aug 2022

A ReactNative iOS and Android anti-terrorism app commissioned by the Major of London. Covered by BBC News, The Independent and others. Python backened deployed on AWS.
https://www.qubiqinteractive.ca/project/swarm-control-digital-twin

iREPORTit
Roles: Developer

Mar 2020 - Jan 2021

A ReactNative iOS and Android anti-terrorism app commissioned by the Major of London. Covered by BBC News, The Independent and others. Python backened deployed on AWS.
https://www.qubiqinteractive.ca/project/ireportit

Dopplle
Roles: Project manager, Developer

Feb 2020 - ongoing

A ReactNative iOS and Android app for clothes trading and messaging. A Python + PostgreSQL
back-end that includes an administration area.
https://www.dopplle.com

Motosu   Jun 2014 - Feb 2017
Roles: Project manager, Developer

A full content management and web hosting system. Allows multiple users to collaborate on
building websites with complex menus, modern responsive layouts and ready-made modules.
https://www.qubiqinteractive.ca/project/motosu

Sort to Live   June 2021 - Sep 2021
Roles: Product owner, Developer

A cross-platform educational game about recycling, written in JavaScript (Phaser 3).
https://www.qubiqinteractive.ca/project/sort-to-live

V-REP Distributed Robotics Simulator   Oct 2017 – Feb 2018
Roles: Technical researcher, Developer

A C++-based robotics simulator that allowed multiple PCs and robots to connect into a common
simulated world.
https://www.qubiqinteractive.ca/project/distributed-robotics-simulator

Sketch BDRML   Jun 2018 – Mar 2019
Roles: Product owner, Project manager

A desktop Java-based editor for the BDRML language.
http://swarmdesign.lenkaspace.net/sbdrml/

pyCreeper   Nov 2017 – Nov 2019
Roles: Developer

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