Luka Kralj

MSci Computer Science

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About Me ─────────

I am a curious person always keen on learning and taking up interesting challenges. I love tackling the **logic** part of applications and **backend** development. My greatest interests lie in various strands of **artificial intelligence** and in writing **secure** and **high quality** software.

Programming Skills

☕	Java	Proficient
🐍	Python	Proficient
JS	JavaScript	Proficient
php	PHP	Proficient
HTML	HTML	Proficient
CSS	CSS	Proficient
C++	C++	Intermediate
SQL	SQL	Intermediate
C	C	Elementary
C#	C#	Elementary
Scala	Scala	Elementary
Unity	Unity	Elementary

Education

MSci Computer Science, King's College London   9/2017 – 7/2021 (expected)
– Currently averaging: 88%
– Relevant modules include:
  ▪ Software Engineering Group Project (agile development, Unix, Git, PHP, HTML, NodeJs) – completed
  ▪ Artificial Intelligence Reasoning and Decision Making (MDP-s, probability theory) – completed
  ▪ Machine Learning (introduction to (un)supervised learning methods, neural networks, and reinforcement learning) – completed
  ▪ Network Security (network attacks, protocols) – completed
  ▪ Security Engineering (design and development of secure systems) – ongoing
  ▪ Neural Networks and Deep Learning – ongoing
  ▪ Computer Vision – ongoing

Gimnazija Nova Gorica, Slovenia (general upper secondary school)   2013 – 2017
– Award of Maturitetno Spricevalo (Slovenian school-leaving examination certificate): 31/34 overall (Mathematics at a higher level: 8/8, Informatics: 5/5, Physics: 5/5)
– As an Informatics project, which counted 15% towards the final grade, I made a Tic-tac-toe game written in Python. The GUI was created using TkInter.

Awards

2nd place (scoring 94%) at UniCode 2019 competition   London, 25 October 2019
1st place at Hack Košice 2019   Slovakia, 31 March 2019
Best IoT hack at Hack Košice 2019   Slovakia, 31 March 2019
Finalist (top 10) at HackKing's 5.0   London, 9 November 2018
3rd place at HackKing's 4.0   London, 26 November 2017
Finalist (top 5) at BrumHack 7.0   Birmingham, 19 November 2017

I attended many Slovenian national knowledge competitions, while studying at Gimnazija Nova Gorica, where I achieved multiple **golden and silver** awards in mathematics, logic, creative mathematics and chemistry. I was also a **national champion** in creative mathematics in 2015.

Projects

Security Assessment of Amazon Alexa – dissertation   London, 9/2019 – 4/2020
– As part of my undergraduate dissertation, I decided to conduct an **overall security assessment** of Amazon Alexa by considering all of its components and subsystems. I enumerated and extended all known attacks on the assistant as well as presented **new ways of exploiting** its vulnerabilities. I then presented a structured and uniform risk evaluation and possible mitigation procedures.

Touch Glove (made with: C++, NodeJs, Python)   Slovenia, 8/2019
– This is a **homemade data glove** which converts hand gestures into screen actions: mouse movement, clicking and dragging, changing of mouse speed for accuracy, and switching between the active windows.
– I created it by threading wires into an old winter glove and connecting them to a DragonBoard 410c. The board was sending data to the laptop client app which converted signals into the screen actions mentioned above.

Easy Nákup (made with: JavaScript, Python)   Slovakia, 3/2019
– This system enables people that are less proficient in technology and live in remote areas to **scan their hand-written shopping lists** and issue an order at their preferred local supplier.
– With this project, my friends and I won the 1st place overall and the Best IoT hack award at Hack Košice 2019 (Slovakia).

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Soft Skills ────────

- 👥 Teamwork
- 📋 Team leadership
- ❓ Problem solving
- 💬 Presentation skills
- 🤝 Direct client interaction
- 🕐 Time management

Languages ────────

- 🇬🇧 English — Fluent
- 🇸🇮 Slovenian — Native
- 🇮🇹 Italian — Elementary

Other Profiles ────────

- My GitHub page
- My LinkedIn profile
- My Stack Overflow profile
- My Devpost submissions

Blood Test Diary (made with: NodeJs, MySQL) London, 1/2019 – 3/2019

– This system was designed and built for a **hospital in London**. It is a more automated and less error-prone system created as an upgrade from their current spreadsheet-based tracking of patients' blood tests.

– As a **spokesperson** and **leader** of our team, I frequently met with our client, a nurse, with whom I had to discuss the system and their preferences in a non-technical way and report the goals back to the team. I was thrilled to be working for a real client and I was even happier when our client decided to **deploy our system** in their hospital.

Disco Ant (made with: Unity, C#) Slovenia, 7/2018 – 9/2018

– Disco Ant is a **rhythm-based game** where players need to press one of the two buttons as precisely on-beat as possible to defeat enemies.

– The core of the game was created at a 2-week **Outfit7 Talent Camp 2018**, hosted by Ekipa2 d.o.o (subsidiary of Outfit7) in Ljubljana, Slovenia. I worked in a team of 8 (artists, programmers and a game designer) and we were conducting daily scrum meetings to keep everyone on the team and our mentors up to date. The game was **released in December 2018** on Google Play.

Other Interests

Volleyball I have been playing volleyball for 12 years now in a club as well as for a school. I am still an active member and a co-captain of the KCL volleyball team.

EESTEC I was a founder and president of the London branch of Electrical Engineering Students' European Association (EESTEC) which is a student-run organisation that focuses on organising international workshops for its members.

IoT In my free time, I like to write programs for small electronics (Arduinos, DragonBoard 410c and similar) and integrate them in various circuits.

Nature Be it an early morning hike in the Alps or an afternoon visit to the seaside, I find this to be the best way to clear my mind.