ÁRON KATONA

Engineering student with passion to technology

@ katonaaron01@gmail.com   ⚲ Cluj-Napoca, RO   ⌂ github.com/katonaaron

🎓 EDUCATION

B.Sc. in Computer Science
Technical University of Cluj-Napoca

📅 October 2018 – July 2022

- CGPA: 9.62/10 - Academic Performance Scholarship recipient
- Software
  - Data Structures and Algorithms (10)   Operating Systems (10)
  - OOP (10)   Databases (10)   Computer Graphics (10)
  - Functional Programming (10)   Artificial Intelligence (10)
- Mathematics
  - Mathematical Analysis I and II   Linear Algebra
  - Statistics and Graph theory   Numerical Methods (10)
- Hardware
  - Digital System Design   Analog and Digital Circuits (10)
  - Computer Architecture (10)   Design with Microprocessors (10)

💼 WORK EXPERIENCE

Android Developer Intern
Garmin

📅 July 2020 - October 2020   ⚲ Cluj-Napoca

- Studied Android development in Kotlin by creating small learning apps
  - lifecycle, navigation, MVVM architecture, Retrofit, Room DB
- Studied the changes in Android 11 and their effects on the Active-Captain app.
  - Presented the issues to the team
- Solved 15 issues and created small features.
  - Established a communication between the UI and a background service by using Broadcast, LiveData and Intents.

Android   Kotlin   Gradle   Git   Gerrit   Jira

📖 COURSES

Developing Android Apps with Kotlin
Udacity, Google

📅 July 2020   ⚲ Online

Java course
Google Digital Workshop

📅 March 2019 - May 2019   ⚲ Cluj-Napoca

C and Win32 programming course
Bitdefender

📅 October 2018 - April 2019   ⚲ Cluj-Napoca

- I was among the five prizewinners.

💡 PROJECTS

Webshop

- Proof-of-concept project for creating RESTful web-services and applying HATEOAS
- Transformation into a distributed system
  - Microservices in separate containers
  - Communication via multi-party session types.

Scala   Spring Boot   Docker compose   REST
HATEOAS   Session types   Distributed back-end

Irrigation station

- A moisture level based plant irigation station with integrated webserver
- REST API through which the clients can configure the application parameters

C++   Arduino   ESP8266   REST

Tatooine

- Presentation of a Star Wars inspired 3D scene using OpenGL
- Lightning, shadows, object and camera animation

OpenGL   Computer Graphics   C++

Translator from propositional logic to Boolean ring arithmetic

- Builds a parse tree and replaces the operators based on the rules described in the article with DOI: 10.1080/07468342.2020.1698931

Python   SymPy   Logic

Fast food webshop

- Menu and checkout pages of a restaurant.
- Demo project for learning Angular.

REST   Java   Spring Data   Angular

🏆 AWARDS

- Google Hash code 2020: My team was ranked in the top 5% (out of 1000+ teams)
- Catalysts School Coding Contest 2018 My team won the 5th place.
- Olympiad in Informatics 2018: 2nd place at county level. Represented my county at the national level.

🗨 SOFT SKILLS

Leadership and organization skills:
- I am one of the leaders of my scout team. Every year we plan and coordinate a scout camp, having around 100 participants.
- Completed a national scout training focusing on leadership and teaching.

Teaching skills:
- For 7 years I've been meeting with a group of scouts regularly, and teach them by applying the "learn by doing" principle. They are now 12-14 years old.
- Founding member of a computer science group in my high school where we teach the pupils regularly about algorithms, programming and technology.
- Enrolled in the pedagogy module of the university.

Communication skills:
Volunteered at the Festival of Young Artists Bayreuth (Germany) in August 2018. I assisted in the logistics of the event by which I had the possibility to work in a team with other volunteers from all part of the world.

Language skills:
Hungarian, Romanian, German (A2/B1, DSD), English (C1, LCCI)

🔧 SKILLS

- Good mathematical background.
- Good problem solving and deduction skills.
- Skills in software design gained by applying the design principles to develop projects.
- Good understanding of functional programming
- Understanding of logical agents and planning with PDDL.
- Skills in designing digital systems and systems with microprocessors gained through personal and university projects.
- Understand the fundamentals of physics and electronic circuits.
- Acquired skills in unit testing through the projects I made.

💗 INTERESTS

My greatest passion is engineering
- To create efficient and quality products
  - Efficient algorithms
  - Designing SOLID software, writing clean code
  - Applying design principles and patterns
  - Applying mathematics and computer science theory to ensure correctness and efficiency.
- To solve (real life) problems by understanding the process behind them.
  - Studying computer science, engineering and physics helps to deepen my understanding.
- Interested in functional programming.
- Interested in IOT and home automation.

I'm also passionate about (new) technology
- I like to try them out: self hosting apps, learning programming languages
- Participate regularly in workshops: GDG Cluj-Napoca, Tech events in Cluj-Napoca

I like to solve puzzles and challenges
- Playing Chess and Sudoku
- Solving math and logic problems
- Solving algorithmic problems:
  - I participate regularly in coding competitions: e.g. Hash code, Code jam, Cloudflight Coding Contest

💻 TECNHOLOGY

Languages and frameworks

Java, C, C++, Kotlin, Android SDK	●●●●●
SQL, Scala, Elm, Haskell, Python	●●●●○
VHDL	●●●●○
Angular, Spring Boot	●●●○○

Tools

Linux	●●●●●
Maven, Docker, LaTeX	●●●○○