



Breno Queiroz

Computer Science Student

I love developing projects and diving into new topics to find innovative and creative solutions.



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brenocq.com



github.com/brenocq

EDUCATION

Bachelor of Computer Science

University of São Paulo (USP)

02/2019 - Present
São Paulo, Brazil - CGPA 9.4/10
(3rd of 118)

AI/CS Exchange Student

Rijksuniversiteit Groningen

02/2022 - Present
Groningen, Netherlands

SKILLS

C++

STM32

Software architecture

Robotics

Computer Vision

Computer Graphics

WORK EXPERIENCE

Embedded Software Engineer

Nuwa Innovation

03/2022 - Present

Groningen, Netherlands

Ink pen that can digitize handwriting on any paper. <https://nuwapen.com>

Achievements/Tasks

- Designed embedded software architecture.
- Developed sensor drivers (camera, imu) and bluetooth driver.
- Created optimizations to improve memory usage, computing time, and transfer time.
- Created desktop tool to interface and debug the pen.

Software Engineer

U-Get (Coca-Cola)

12/2019 - 09/2022

São Paulo, Brazil

Startup in partnership with Coca-Cola to build AI driven smart vending machine. (Product and face recognition)

Achievements/Tasks

- Developed program to generate photo-realistic datasets to train neural network of vending machines. (C++, Software architecture)
- Web Application to control and manage Coca-Cola vending machines around the country. (Django, Postgres)
- Developed embedded software to interface between vending machine user and cloud servers. (Android, SQL)

PERSONAL PROJECTS

Atta (07/2020 - Present)

- Open-source engine for multi-robot systems with architecture similar to game engines, aiming at ease of use and high-performance (C++).
- The engine has is divided into decoupled modules, like FileModule, ResourceModule, PhysicsModule, GraphicsModule, SensorModule, etc.
- <https://github.com/brenocq/atta>

Soccer Robot (12/2017 - 12/2018)

- Simulation of soccer robot games and physical robot development. Algorithms for robot localization, ball detection, omni-directional robot control, path planning and obstacle avoidance. (C++, V-REP)

Honeybee Democracy (04/2020)

- Genetic algorithm to find optimal parameters to simulate how Apis Mellifera bees choose a new home. Based on the book "Honeybee Democracy" by Thomas Seeley. (C++, CUDA)

Improved - Time Tracking App (02/2020)

- Time tracking app for Android that I use daily to organize myself. (Flutter)

ACHIEVEMENTS

Finalist at Brazilian Science and Engineering Fair (FEBRACE) (2019)

Development of an autonomous greenhouse for school environment with website for management and automatic irrigation.

4th place SSL League Brazilian Robotics Competition (CBR/LARS) (2019)

Member of the Warthog soccer robot software development team. Helped develop robot game strategy and teach programming to other team members.

3rd place out of 99 teams in the SancaThon Food Service (2020)

Hackathon to develop food service solution to minimize damage caused by COVID-19.

Article with Academic Merit on Brazilian National Robotics Fair (MNR) (2017)

Article describing soccer robot hardware design.