

Àlex Batlle Casellas

atellas23.github.io | alex.batlle01@gmail.com | +34 620 93 76 28 | Github | LinkedIn

Hi, my name's Àlex! I'm a very curious and open minded university student based in a town near Barcelona, the very cosmopolitan capital city of Catalonia, Spain.

I'm currently studying at CFIS, an excellence center within the Polytechnic University of Catalonia (UPC-BarcelonaTech), where I'm majoring in both Mathematics and Data Science and Engineering. I have a special interest in DL/RL and artificial intelligence, of which I expect to make a living in the future.

Regarding my journey through education, in the past I skipped a high school year when I was 11, making me a year younger than my current classmates. This made me grow up at a fast pace, making me learn how to adapt to certain situations both socially and academically, and had and still has a big impact on my personality. After mandatory high school in Canet de Mar, I went to Institut Moisès Broggi, a public high school in Barcelona, where I was member of the first promotion that obtained the IB Diploma, while also obtaining the Spanish Baccalaureate. After the IB, I was admitted to UPC to start the Bachelor's Degree in Mathematics on Fall 2018, and at the start of my second year in university, on Fall 2019, I was accepted at CFIS, where I currently study.

While going through my education years, I have collaborated and worked in many projects. When in mandatory high school years, I participated in AI and Robotics activities, both within high school teams and individually, gaining a lot of drive and interest for these fields. During these years, I also was admitted to be a member of the 12th promotion of Estalmat Catalunya, a weekly advanced mathematics activity carried out by voluntary teachers for young teenagers with a special interest and talent for mathematics. After the mandatory high school years, while coursing the IB, I also participated in the Mathematics Summer Camp and in the Algorithmics and Programming summer course of UPC. I also participated in the first competition of AIColiseum. During my university years, I have done many programming coursework and some side projects, which can be seen on my GitHub profile, some of which have been in collaboration with other students. Also, I have compiled an uncomplete list of my course notes and exercises in this repository, which are mainly in Catalan. In the summer of 2019, I started my volunteer work as a summer camp surveyor in a local organization from my town, with a team of 30 other good and lovely people. During all of these years, I have worked as a mathematics and science tutor for students on lower courses. On summer 2021, I worked as a Software Engineering Intern at HP, where I learned the basics of ROS and built a graphical interface to view and manipulate ROS launch files as a graph.

Regarding my interest for Artificial Intelligence, I was mainly motivated at the start by the competitions and activities on robotics that I participated in as a young teenager. After that, my motivation also came from Isaac Asimov's Robots and Foundation book saga, which I read while finishing off the IB Diploma Programme and starting my university degree. Fueled by both fiction and expectations of the future, and by real, hands-on experience using AI algorithms on university coursework and side projects, I started the Data Science

and Engineering degree on 2019, and from then on, my interest has only grown. I have recently finished an elective subject on Deep and Reinforcement Learning at university, where I have learned a lot about reinforcement learning algorithms, RNNs, self-supervised learning, and generative models, to name a few things. I have graduated with honours from this course and I am still broadening my knowledge of the subject and learning a lot online. During this school year, I have also been attending a course on Mathematical Aspects of Algorithmic Learning and Deep Neural Networks, available online, and a four-session mini-course on quantum computing from a mathematical point of view, held at FME (the School of Mathematics and Statistics of UPC).

To summarize, I'm really interested in research on machine/deep/reinforcement learning and algorithmic learning. I'm currently reading about policy optimization, applications of the several existing RL algorithms and the development of new ones. I have recently participated in this year's IDAO contest, the International Data Analysis Olympiad, where I have collaborated with two of my classmates in designing and optimizing different models to solve a regression task.