

David Acev

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Dear Prof. Dr. Sergi Abadal,

In response to the opening PhD position stated as “Doctoral Student” at Universitat Politècnica de Catalunya (NaNoNetworking Center - N3Cat), I would like to express my enthusiasm in applying for it. I believe the combination of eagerness, problem-solving skills, passion towards mathematics, international experience, analytical approach, data-driven strategies, and educational background makes me a perfect candidate for this opening PhD position. Although during my university life I have studied various engineering fields, I possess an abundant knowledge in the fields of Automation and Wireless Communications as part of Electrical Engineering, Data Science and Artificial Intelligence (AI), and mathematics in general which I believe is a great starting point on my potential journey as a PhD student in Nanosensor networks scenario at Universitat Politècnica de Catalunya.

I am a graduate engineer in electrical engineering and information technologies (major field: Computer System Engineering, Automation and Robotics). I have graduated from Saints Cyril and Methodius University of Skopje – Faculty of Electrical Engineering and Information Technologies, with an overall average mark of 9.00 (on scale from 6 to 10) among the most talented students in my generation. Additionally, I have finished a master’s programme (major field: Wireless and Mobile Communications) at the same university as a first student to complete a postgraduate program in English at the faculty. Moreover, I have finished another master’s programme at CESTE, International Business School in Zaragoza, Spain (major field: Data Science and Artificial Intelligence).

Wireless and electrical engineering as well as AI fascinate me. What I find really interesting is how all the way of communication is evolving, the digital revolution is at its apex, and the new technologies keep emerging. The creation of innovative cognitive models, particularly through the application of AI and wireless nanosensors, is an area that I find massively intriguing. At the same time some interesting questions arise. Could nanotechnology be the “catalyst” of a thorough construction of the next generation wireless sensors? How the data could be elaborated in order to be used to the full potential and used in the design of novelty sensors? Could the signals be send from all the environments seamlessly? How could we circumvent the challenging propagation environments? These are some questions I would like to explore while working and researching in N3Cat at Universitat Politècnica de Catalunya. I definitely believe that is the direction the technology will be evolving in the future and my goal is to contribute in the process of constructing, developing, automating, optimizing, and deploying those nanosensors that will lead to the meaningful insights and later used in real life.

My desire to apply at Universitat Politècnica de Catalunya comes from the facts that I want to be a small part of a team within one of the most prominent, innovative, prestigious research universities in the world and my will to contribute drastically in the field I am aiming to earn a PhD degree. I am willing to expand my knowledge in wireless engineering by working on breakthrough discovery projects. Through the website of Universitat Politècnica de Catalunya (N3Cat) I got a clear perspective of the aspects I like about an university and those are the team spirit in every area at Universitat Politècnica de Catalunya, and the way how the PhD programs are organized, which I personally think is crucial for the professional development of every young engineer.

I am currently working as a Technical Investigator at an energy research company where I use Data Science and Machine Learning algorithms for prediction projects funded by the European Union.

Moreover, I am handling other projects where I am designing APIs to connect algorithms to a specific platform. Previously I was part of a marketing team in the same company and since I was the only employee with a technical background in the department, I needed to be a fast and self-learner, and besides that to be a leader of the technical part of the department and to create initiatives when needed. Mainly my research findings are used in energy price and its volatility forecasting and predicting potential failures and managing the functionality of lighting systems.

I want to point out that my final project of my post-graduate studies was about the mobility of the motorbikes in the city of Zaragoza and I have been using Python, SQL, and visualization tools like QGIS and Tableau for it. I have been using Python (especially Natural Language Processing) for my other master's thesis, which I defended earlier this year and it is in a process of publishing, to classify URL addresses and to provide better cyber security. I am a specialist in Python libraries applicable for Data Science (Machine Learning, Deep Learning) and other programming languages like C, R and Java. However, I am not limited in my existing knowledge, and I am eager to learn new things, especially in the field of electrical engineering and compute science in general, which can expand my horizon. Hopefully with the help of senior engineers I could transform myself in a powerful engineer.

I hope that you will consider my application. I am convinced that the knowledge, practical and theoretical, I would gain on my way of becoming a PhD engineer will be of great importance in my later work at Universitat Politècnica de Catalunya and would be my first step of many in achieving a plethora of significant insights in the design of wireless nanosensors. I hope that I will be able to represent Universitat Politècnica de Catalunya in a decent way and I will justify your trust.

Yours sincerely,
David Acev