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A Philosopher's Daughter Navigates a Career in Al



NAME Nuria Oliver BACKGROUND Spanish CURRENT JOB TITLE/EMPLOYER Co-founder and Director of the Institute of Humanitycentric AI (ELLIS Unit Alicante Foundation; https://ellisalicante.org) EDUCATION Telecommunication Engineer, Ph.D. from MIT in Perceptual Intelligence

DID NOT GROW up thinking I would dedicate myself to the field of artificial intelligence (AI). I am from a middle-sized Mediterranean town in Spain and come from a humanities family: my father is a philosopher and a Latin-to-Spanish translator, and my mother is a teacher in humanities-related topics.

In my last year of high school, a friend of my brother who was studying telecommunication engineering in Madrid came to Alicante for Spring break and spoke to me about the great potential technology holds to improve society. That conversation inspired me to study computer science; that moment marked the start of my career in technology. Since then, I have built smart rooms, clothes, cars, and phones. I've invented systems capable of recognizing human behaviors or characteristics, such as facial expressions, activities, interactions, driving maneuvers, sleep apnea, and even boredom. For over a decade, I have explored the value of data and AI to drive positive societal impact by enabling us to detect crime hotspots in cities, foster financial inclusion, estimate the impact of natural disasters, and better model the spread of infectious diseases, such as malaria, or coronavirus.

CAREER PATHS IN COMPUTING

> None of this would have been possible had I not dedicated myself in school for six years and then been awarded a La Caixa Foundation fellowship, which allowed me to fulfill my dream of attending MIT for a Ph.D. in AI. During this formative time in my life (mid-1990s), I started to feel that I was helping to invent the future: augmented reality, smart clothes and cars, affective computing, electronic ink, and more. Many of these applications have now become a reality (or are about to become so).

> I was privileged to work in places where the digital age we know today was forged, and to participate in some of the centers where intelligent technologies were created, such as MIT and Microsoft Research (MSR).

> Throughout my career, I have focused on answering questions with a clear social application. I'm inspired to create technology capable of understanding us as a preliminary step in helping us. However, the impact of this technology is not always positive, which concerns me.

This worry has been the main motivator for my latest career change. After a long research career in industry (first at MSR, then at Telefonica R&D and

Vodafone), I've taken up the challenge to make the ELLIS Unit Alicante Foundation thrive. ELLIS Alicante is a newly created non-profit research foundation devoted to AI for social good, hence its name "The Institute of Humanity-centric AI." It was created from scratch, and it is connected to 34 other ELLIS units in different European countries. ELLIS is a European network of scientific excellence to attract, retain, and invite the next generation of top research talent in AI to stay in Europe. In addition to EL-LIS Alicante, I collaborate with many global organizations, such as Data-Pop Alliance, where I am Chief Data Scientist, and the Vodafone Institute, where I am Chief Scientific Advisor.

AI is rapidly leaving the realm of science fiction. AI-enriched systems are now part of our daily lives and will play a much more important role in the future. The potential of AI to profoundly transform society, in practically all areas, is immense. We need technology—and particularly AI—to survive as a species, overcoming tremendous challenges such as climate change, the sustainability of the planet, the aging of the population, and the increasing prevalence of chronic diseases.

However, we run the risk that millions of people will be left out of this transformation. Moreover, the changes that AI will bring might not necessarily be positive for society if we do not actively work to make it so, demanding that innovation must contribute to progress, equality, and prosperity; to a better world for all, not only for a few. That's what motivates my current work at ELLIS Alicante. I invite you to join our cause: developing AI for and by the people.

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