

Marcin Detyniecki Freeze Frame

Just try finding a picture of a blue sweater on Google. Some images will match, but only because someone has gone to the trouble of putting the words “blue” and “sweater” into the caption. Without the words, the purely alphabetic intelligence of the “robots” that trawl the web wouldn’t let them find the image. This is the challenge that Marcin Detyniecki, at the LIP6,¹ has taken up. The idea is to teach computers how to recognize colors, shapes, or even objects. For instance, they could be taught to dissect a video report and automatically produce a faithful summary; or check images in emails to identify spam; or find T-shirts of a given color in online catalogs. It might seem too good to be true, but these are already some of the examples that Detyniecki has on his laptop, proving that his approach is paying off.

A former volleyball player, Detyniecki’s good looks and confidence shatter the myth of the nerdy artificial intelligence expert. We can detect in his speech a slight Eastern European accent, though this 32-year old spent most of his life closer to the Venezuelan rainforest than to Poland—where he was born. His father, a painter, and his mother, in painting restoration, left the country a few months after his birth to escape the regime.

In Caracas, he went to the German high school, and learnt Spanish from their cleaning lady. Today, seated in his office, he breaks off to answer the phone,

speaking for a moment in an incomprehensible language. “My brother and I speak to each other in a mixture of Polish and Spanish,” laughs Detyniecki, a polyglot who speaks seven languages, five of which fluently.

This inveterate traveler has never really settled down. He’s seen little of Poland, and a great deal of Venezuela. But he’s also lived in Portugal and been to Germany on exchange programs, before



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being invited to prepare the entrance exam for a “grande école” at the Lycée Louis le Grand. But he wasn’t at the required level, and had to make do with obtaining his Baccalauréat in June 1992—still not bad, for someone who had arrived in France five months earlier unable to speak the language. It is at Paris-VI University that he studied mathematics and physics and obtained a Master in artificial intelligence.

Detyniecki then went on to do a PhD at LIP6, where he was directed by Bernadette Bouchon-Meunier, and at the Machine Intelligence Institute, in the state of New York, under the aegis of Ronald Yager. He then became a postdoc at Berkeley (US) in the team of Lotfi Zadeh, the inventor of fuzzy logic.² Google was interested in him—and they still are—but he preferred to join CNRS in 2002, and even became a French citizen to avoid visa problems. “Here, I have the freedom to think and to work on long-term projects, without material worries. So today, I have come back to research that is more theoretical, more conceptual.” And things are moving fast in the field of artificial intelligence: “Something that’s three years old is already out of date,” explains Detyniecki, who, like his colleagues at LIP6, is not afraid to compete with the world’s best teams. As he puts it, “I’m not a great fan of competition, but it helps you know where you stand.”

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2. While there are only two possibilities in binary logic (0 or 1)—a sweater is either blue, or not blue—fuzzy logic makes it possible to take into account the lack of precision of a piece of information: The sweater could be blue with a degree of truth of 0.9, and it can be inferred that it has a color that is very similar, for instance purple.

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Alex Chepstow-Lusty Of Mites and Men

Conducting research in Peru for France when you’re actually British might seem a bit convoluted, but it’s a straightforward career move for 45-year old Alex Chepstow-Lusty.

For the last 14 years, this paleoecologist has been relentlessly retracing the history of the Inca Empire, which disappeared in the 16th century. Like a detective, he meticulously studies lake sediment cores, on the lookout for the tiniest clue. A pollen grain, a fragment of charcoal, a mite, or a single seed are all biological indicators that can help reconstruct the climate and vegetation history of the Andean landscape, which was transformed for agriculture by pre-Columbian civilizations. It was while growing up in Sussex that Chepstow-Lusty became fascinated by natural history. When he was 19, he left southeast England for Bristol University to devote himself to the study of microfossils—a branch known as micropaleontology. In 1990, he completed his PhD in ocean climate history at Cambridge University, and realized that what he really enjoyed was combining natural history with human history. A keen botanist, he found one of his first jobs in Cambridge at the World Conservation Monitoring Center. While working there on Latin American trees in danger of extinction, he became interested in Andean societies, both past and present, that have fascinated him ever since. He rejoined Cambridge



University to study changes in Andean vegetation, using the analysis of pollen found in the sediments of Marcacocha, a small lake near Cuzco, the old Inca capital perched high in the Peruvian Andes. That was in 1993, and right from his first field trip, he fell in love with the region. As he describes it, “life is preserved there like nowhere else, it’s almost a biblical landscape.”

In 2000, when his wife came to France to work in Montpellier, he moved with her, continuing his research on pre-Columbian civilization as a member of the “friendly and dynamic” team of the Paleoenvironments department attached to CNRS.

His task was to compare the effects that the Inca and Spanish populations had on the Andean vegetation. While pursuing his research, he “accidentally” came across fossilized mites in the lake sediments that turned out to be excellent indicators of past human activity, since they colonize areas of pastureland, mostly feeding on livestock excrement. Following this discovery, which was the subject of a publication that made world headlines, he joined CBAE³ in Montpellier. “Since oribatid mites live all over the planet, they can be used everywhere, and they can easily be quantified using an ordinary microscope,”

WORKING IN A FRENCH LAB, PRACTICAL INFORMATION:

France Contact will help you plan and arrange your stay in France:
→ www.francecontact.net

French embassies and consulates abroad:
→ www.expatries.diplomatie.gouv.fr/annuaire/annuaire.htm

Fondation nationale Alfred Kastler (FNAK):
Helps foreign researchers settle in France and maintains contact after their departure.
→ www.fnak.fr

Foreign embassies and consulates in France:
→ www.diplomatie.gouv.fr/annuaire/

Association Bernard Gregory:
This association helps young PhDs from any discipline make the transition into business.
→ www.abg.asso.fr

Edufrance:
Information on higher education in France; coming to study or applying for grants or fellowships.
→ www.edufrance.fr

Chepstow-Lusty explains. He is at last living at the heart of his research, in Cuzco, where for the past eight months he has been working for IFEA.² He is convinced that we have much to learn from pre-Columbian civilizations when it comes to the environment. The lake sediment records he has obtained are an invaluable source of information on how the Incas and previous societies transformed the landscape during a period of warming that began about 1000 years ago: growing crops on terraces to reduce erosion, with irrigation systems that used glacial water. “Such methods increase crop yields. In fact, they are beginning to be reintroduced by the local populations.” Chepstow-Lusty has also shown the importance of agroforestry³ for the Incas. With the rapid disappearance of Peruvian glaciers, due to global warming, reforestation programs⁴ using threatened endemic species are one of the solutions for capturing water in the mountains, in fact using the very same trees that he studied right at the start of his career.

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2. Institut français d’études andines (CNRS / French Ministry of Foreign Affairs).
3. Agroforestry is used here to indicate the benefits that planting trees can have in association with agriculture, or separately, for providing vital environmental services.
4. Asociación Ecosistemas Andinos (ECOAN), Cuzco.

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GRANTS/FELLOWSHIPS

SAMUEL DE CHAMPLAIN PROGRAM

This program funds travel for researchers and students participating in research projects involving teams both from France and Quebec. The call for proposals for the 2009-2010 biennium is open.

→ **Deadline:** September 15, 2008.
→ www.mri.gouv.qc.ca

THE EUROPEAN RESEARCHER'S MOBILITY PORTAL

It provides information on grants, fellowships, or positions available

throughout Europe. CVs can be posted and practical information can be found (accommodation, childcare and schools, health care...) for each country.

→ http://ec.europa.eu/euraxess/index_en.cfm?11=0&I2=0&I3=0

FUNDING FOR HUMANITIES

CNRS and the British Academy have a yearly call for 2-year cooperative projects in humanities between the two countries. Awards are up to £2,500 per annum from the BA, with matching funding available from CNRS for the

French partner.

→ **Deadline:** September 30, 2008.
The British Academy also has agreements with the French Maison des Science de l’Homme, to fund travel expenses and maintenance allowance.
→ **Deadlines:** 30 September, 15 January, 15 April.
→ www.britac.ac.uk

ÉGIDE

Égide is a non-profit organization that manages French government international mobility programs. Many funding opportunities are listed. Most

content is available in English.
→ www.egide.asso.fr

MARIE CURIE ACTIONS

This EU program provides numerous fellowships and grants for mobility in Europe:
→ http://europa.eu.int/comm/research/fp6/mariecurie-actions/indexhtm_en.html

EXCHANGE AGREEMENTS

With Spain:
The agreement between CNRS and CSIC provides support for the exchange

of young researchers (PhD students and post-docs) and senior scientists for a period of 1 month to 6 months. Call for applications is open for 2009.

→ **Deadline:** October 15, 2008.
→ ilias.petalas@cnrs-dir.fr and c.cabellos@orgc.csic.es

With Poland (PAN), Czech Republic (ASRT), Serbia (MSCI) and Slovakia (SAS):

Two-year funding up to €2000/year for joint projects, renewable once. Each partner must send an application to its own country.
→ **Deadline:** September 30, 2008.
→ mariana.boumghar@cnrs-dir.fr