



I first became interested in neural networks in about 1987. The idea that machines could learn was intriguing. But it seemed that there was a need for a more rigorous analysis. Aspects of that led me to computational learning theory (COLT) which was just getting off the ground at that point.

I founded a kind of European COLT (EuroColt) in 1993 with

Martin Anthony. Then in 1994 I coordinated NeuroColt 1, followed by Neurocolt 2. Most recently, PASCAL began in 2004.

Through these I tried to understand some of the more successful learning algorithms, particularly support vector machines. Over time I gradually moved back into applications, from just theoretical work; taking the ideas and seeing if they could be applied. I now have a bit of a mix, probably slightly more on the application side.

I think coordinating PASCAL is enjoyable partly because I try to do it with a minimum of fuss, which I prefer. You can make these jobs as complicated as you want. The other thing is that for a network to succeed you can't tell people what to do. That is the first step to failure. So what you really have to do is *enable* – give them the environment in which they can do what they want to do anyway, but you're encouraging them.

I also think it's been enjoyable because we've had an incredibly good group of people in Europe. I look around and everywhere there are really strong people working in this area. It's a very nice convergence of talent that you can see in the theory and practical sides that has meant that you feel it's worthwhile – stuff is coming out that's really good. And also they really are very decent people: they help, they play ball, they do what needs to be done.

My previous experience made me more confident when helping to plan PASCAL; I was drawing on a lot of the experience of seeing how a network can run. You can't be too

laissez faire, you have to build in feedback mechanisms that ensure people want to get involved. They're not going to do something unless there's something in it for them, so you have to set it up in way that it is a win-win situation. I also think it's important to keep a theme of well-founded rigorous research – a quality line that you have to try to keep well-defined, so people feel that this is worth being a part of.

The key to the success we've had is setting up the right kind of cooperative way of working. People feel that there's a basic sense of trust. You don't have people continually saying, "what about that money, why wasn't it spent here?" There's almost no dissent – which is extraordinary. I think that comes down to trust that's been built up through these earlier projects. Trust is something we have to be very careful to nurture and we must behave in a way that is worthy of it.

That has been enormously helpful in making the network run smoothly. It's also enabled us to implement some funding mechanisms that on the surface looked like they might create some conflict – like every year each site gets an allocation of money dependent on how much activity they generated. That looks like a recipe for disaster, but it worked amazingly well. We have a mechanism for taking on board comments, so people genuinely sense that if they put effort in and do something then they will be rewarded, and that there's a fair system to assess it. That encourages people to get involved. And because activity is linked to promoting their work (for example in workshops, paper repository, videolectures) people see it as a win-win; once the momentum is going people are keen to be involved because they see it as something that is giving them exposure.

PASCAL is a research environment in which you're going to learn a lot of new things. You see new work and ideas emerge, which is exciting. In future I think we're going to see more and more larger-scale learning systems coming out. We're beginning to have the potential to impact all kinds of systems in the wider community.

For me PASCAL has succeeded because it has enabled a shared creativity to develop and flourish. It's a tribute to the quality and character of the scientists across Europe and the spirit which they have brought to the PASCAL network. This spirit also helped make Steering Committee meetings very constructive; decisions were made with little fuss and often good humour. Perhaps my biggest sense of satisfaction in helping to set up PASCAL came when new workshops and events were created that we had not even considered let alone proposed. PASCAL had flown the nest and was showing a life of its own!

It's been very fulfilling to see the network succeed. You can point to the articles in this brochure for concrete examples of the success of PASCAL, but I also think that the success of PASCAL is the fact that it has got people to work together in Europe. I think we're giving the rest of the world a run for its money.

John Shawe-Taylor

