Oration for Dr Jan Pinkava

Chancellor, the Senate has resolved that the degree of Doctor of the University be conferred upon Dr Jan Pinkava.

Computer science and electronic engineering have always been driven by visionary researchers, able to combine creativity with the sound principles and attention to detail required in order to make things which are fit for purpose, whether they be mathematical theories, software or electronic devices.

However, the creativity shown by Dr Pinkava is of a recognisably different kind. From an early age, he demonstrated artistic talent, manifested through his sculptures and film making. For example, his sculpture Big Cat was acquired by Essex University many years ago and will take pride of place in the University's new library extension which opens next year.

While a pupil at Colchester Royal Grammar School he won the 1979 National Young Film Makers Competition of the Year Award. The judges said that his film was the only one in the history of the competition that was, and I quote "spectacularly professional". This was a clear sign of things to come.

After leaving school he went to Aberystwyth University, gaining a BSc in Computer Science with 1st class honours, and a PhD in Robotics. Jan had the foresight to see that computing would come to play a major role in film making.

During this time he also represented his university in fencing, archery, and even hang gliding competitions!!

After university he began his career in computer animation, initially working for Digital Pictures in London, who specialised in TV commercials, and subsequently joining Pixar in 1993. Jan's most famous work to date is probably Ratatouille, which tells the story of rat called Remy who dreams of being a world class chef in a fine Parisian restaurant, much to the horror and shame of his father!

Jan wrote the original script for Ratatouille and was the co-director. It was nominated for five academy awards, and won the award for Best Animated Picture.

Prior to this, his film Geri's Game won the 1997 Academy Award for the Best Animated Short Film. The story was the first of Pixar's films to feature a human as the main character and furthered the state of the art in cloth, skin and human expression rendering. It tells the gently amusing and touching story of an old man playing chess with himself in a park, adopting two personas to play white and black, in a game full of drama as the protagonists do battle.

It's an engaging film and you quickly forget that there is really only one player, and furthermore that what you're watching is a bunch of computer-generated pixels. At this stage I'd like to set you all a piece of homework: to view it on Youtube!

What you'll see is that the character is entirely believable and you'll empathise with him as you follow his ups and downs during the game. But as with any film, the actions of the character are programmed in advance by humans like Jan and his team, and the character itself has no free will.

The next challenge for artificial intelligence is to develop computer programs that can animate characters to a similar standard of believability in the course of natural conversations with humans, and within the next twenty years you may struggle to tell whether you're in a video chat with a human, or with an artificial intelligence bot.

We are tackling this challenge within CSEE as part of our new Centre for Doctoral Training in Intelligent Games and Game Intelligence. Such intelligent and believable characters may also have a role to play in a new genre of computer generated films. The idea is to populate a scene with a variety of computer agents, perhaps with conflicting beliefs and desires, and then observe the drama that emerges.

Ideas like this fall within the field of computational narrative, and narrative is one of the things that Jan now works on at Google. However, it's likely to be many years until computers can generate novel high quality narrative, and even Google haven't replaced Jan with a bot just yet!

Going back to Jan's early life, he was born in 1963 in Czechoslovakia, but his family emigrated to the UK after the 1968 Soviet invasion. His life story illustrates the benefits we can obtain by being open to immigration as a nation. Working his way from immigrant to Oscar winning computer scientist is no small achievement, and something that wholly embodies the spirit of the Essex Challenger Brand.

Chancellor, I present to you Dr Jan Pinkava.