

## Personal Statement

“Science is all”. This is how I define science. I have been so fortunate to be engaged in studying science since middle school and to narrow it to computer and electronics since 2014 in the University of Electronic Science and Technology. I am not born a genius but I think I get well prepared to pursue a higher degree based on my four-years study of ECE and two-years of relevant research experience, as well as a good programming ability, knowledge of algorithms and the passion for Computer Vision & AI. Being determined, I am pursuing a PhD degree in the field of computer vision and machine learning.

I am not the first college generation of my family and I am growing up with a good family education that focuses more on cultivating my mind. This education takes me beyond schools, empowering me with ideology. We are asked questions such as what makes us good students, well admittedly, it's the ability. But what makes us good scientists or researchers? Now it's not about kinds of abilities, it's about passion, creativeness and the vision, three ingredients of ideology. My growth is focused on the three and this statement, unlike normal ones that only outline abilities and experiences, is likewise focused on my passion, my creativeness and my vision toward computer vision.

Passion is the carrier of my curiosity toward computer science, as well as my backbone to study it. My passion for computer vision and machine learning is generated through years of undergraduate study, and grows stronger through my experience in my lab. Driven by this passion, I organized an academic ‘Reading Group’ where we regularly put our study problems and gains into discussions. To keep us being inspired, I would invite lab alumni, who are now enrolled in top US graduate schools, to give us elegant presentations about their on-going projects or some cutting-edge applications of famous tech companies like Google, once a week. These activities are, not only improving my managerial ability and leadership, but also keeping me being aware of the cutting-edge research. Once in a presentation about RCNN, I soaked myself in the interpretation of the sophisticated but interesting algorithms that could achieve amazing results. I realized that no matter how hard it is, it's what I am passionate for. Research is tough especially when you are in the PhD program, but as long as you love it, you would gain the sense of achievement and happiness.

Creativeness, unlike the passion, is the weapon of me that enables me to explore. While people think that Newton's success is count on his scholarship, I think it's his creativeness leads to his success. Creativeness allowed him to consider why apple falls down rather than up. Edified by him, I cultivated my own creativeness in the past three years, and demonstrated it in various activities. I took courses including advanced math & physics to train my analytics ability; I stands among the top 10 out of 200 in the 3<sup>rd</sup> year which demonstrated my strong academic understanding; I participated in the Mathematics Competition and won 1<sup>st</sup> prize where my divergent thinking and innovativeness were recognized by my team. Through these experiences, I learnt to be skeptical and thoughtful, which allows me to obtain a creative idea in seconds to a newly proposed question. After I entered the GISPALab, my creativeness helped me beyond

my expectation. In the project “Saliency Detection in 3D video”, optimized parameters in segmentation varies with the changing input, causing the great difficult of setting. After studying the SLIC algorithm, one fresh idea strokes me – use multi-scale approach with different parameter value in each scale to make the method robust and general. The merit in each scale is combined and the performance is improved much. Integrated with other innovative method, such as graphical model, and extensive experiments on widely-used datasets, our proposed method excels other state-of-the-art proposals. With my diligent writing by LaTeX, the paper is submitted to *ICME2018*. Upon my incisive thoughts, we find our work could be further upgraded by a very potential deep learning method, thus the topic of using Generative Adversarial Networks to detect saliency in 3D video is set as my graduation project. During all the period, the creative mind is the core of productiveness, without which the ability to programming or derive equations becomes less helpful. Harvest were rich, based on my stronger creativeness, two patents of my other projects have been accepted. Again, at least for me, the creativeness is proved to be the key for success.

Vision is easily to be neglected, but it is indispensable; it determines my attitude and horizons. I admire those American scholars who focus on scientific research and never simply follow the trends. This is we call the attitude of being a researcher, which could only be obtained once out academic vision is broad enough to discern contexts. Like them, I respect knowledge and I have my own vision which takes me far beyond books. My vision is more than academics, it encompasses abilities such as social, teamwork and managerial abilities that are equally conducive to success in research. I have these abilities revealed by my attendance to multiple activities, especially my experience in Student Union of my school, where my contributions in the None-Native Karaoke activities are much appreciated by the school. Also, the start-up of my learning group is a demonstration of my strong leadership. Lack of abilities, lack of success. Only with these abilities can I have a strong base of the high vision.

I have been waking so far on my journey toward the success of academic. My entrance into the University of Electronic Science and Technology of China (UESTC) is a first step, and now I am taking the second one. I hope with a further study in PhD program, I would embrace the science and research eventually.

“Lucky to be a man of engineering, of vision, passion and creativeness”.