**南京邮电大学导师介绍（国际学生）**

**NJUPT Supervisor Introduction（International Students）**

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| **姓名**  **Name** | **成孝刚**  **Xiaogang CHENG** | **性别**  **Gender** | **男**  **Male** |
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| **研究方向**  **Research Direction** | **计算机视觉及其应用研究**  **computer vision and its interdisciplinary application** | | |
| **主要研究成果**  **Main Research Results** | Partly Publications  1. **Xiaogang Cheng**, Fei Hu1, Bin Yang, Faming Wang, Thomas Olofsson. Contactless sleep posture measurements for demand-controlled sleep thermal comfort: a pilot study. *Indoor Air*, 2022.10. **(*SCI, JCR Q1, IF=5.77*)** 2. **Xiaogang Cheng,** Bin Yang, Thomas Olofsson, *et al*. NIDL: A pilot study of contactless measurement of skin temperature for intelligent building. *Energy and Buildings*, 2019, 198:340-352. (***SCI, JCR Q1, IF=5.879***) 3. **Xiaogang Cheng,** Bin Yang, Thomas Olofsson, *et. al*. A variational approach to atmospheric visibility estimation in the weather of fog and haze. *Sustainable cities and society*, 2018, 39:215-224. **(*SCI, JCR Q1, IF=7.587*)** 4. **Xiaogang Cheng,** Bin Yang, Thomas Olofsson, *et. al*. A pilot study of online non-invasive measuring technology based on video magnification to determine skin temperature. *Building and Environment*, 2017, 121:1-10. **(*SCI, JCR Q1, IF=6.456*)** 5. **Xiaogang Cheng,** Bin Yang, Kaige Tan, *et al*. A Contactless Measuring Method of Skin Temperature based on the Skin Sensitivity Index and Deep Learning. *Applied science*, 2019, 9:1375. **(*SCI*)** 6. **Xiaogang Cheng,** Bin Yang, Thomas Olofsson, *et.al*. A Total Bounded Variation Approach to Low Visibility Estimation on Expressways. *Sensors*, 2018, 18:392-410. **(*SCI*)** 7. **Xiaogang Cheng,** Fei Hu,Limin Song, *et al*. A Novel Recyclable Garbage Detection System for Waste-to-energy Based on Optimized CenterNet with Feature Fusion. *Journal of Signal Processing Systems for Signal Image and Video Technology*, 2022.6 (***SCI***） 8. Bin Yang, **Xiaogang Cheng,** Alan Meier, *et al*. Real-time and contactless measurements of thermal discomfort based on human poses for energy efficient control of buildings. *Building and Environment*, 2019, 162:1-10. (***SCI, JCR Q1, Corresponding Author, IF=6.456***) 9. Junpeng Qian, **Xiaogang Cheng**, Bin Yang, *et al.* Vision-Based Contactless Pose Estimation for Human Thermal Discomfort. *Atmosphere*, 2020,11, 376:1-11. (***SCI,*** ***Corresponding Author***) 10. Alan Meier, **Xiaogang Cheng**, William Dyer. *et al*. Non-invasive assessments of Thermal Discomfort in Real Time. Comfort at the extremes 2019. 11. YANG B., LI X. J., HOU Y. Z., MEIER A., **Xiaogang Cheng**, *et al*. Non-invasive (non-contact) measurements of human thermal physiology signals and thermal comfort/discomfort Poses-A review. Energy & Buildings, 2020,224:110261. (***SCI, JCR Q1***) 12. WANG Y. X., FU M. Y., ZHANG X. F., JIN D., ZHU S. Y., WANG Y. C., WU Z. Y., BAO J. M., **Xiaogang Cheng**, YANG L., XIE L.H.. Cubic Nanogrids for Counterbalance Contradiction amon Reorganization Energy, Strain Energy, and Wide Bandgap. *J. Phys. Chem. Lett*, 2022, 13:4297-4308. (***SCI, JCR Q1***)  Book Bin Yang, Xiaogang Cheng, Faming Wang, Songtao Hu. Principle and application of contactless thermal comfort detection, 2022.11 Partly Patents  1. A detection method traffic haze visibility based on image spectrum, China, ZL201811002540.8, 2022.03.15, Certificate of Authorization: No. 4995689; 2. A Prediction Method of Freeway Traffic Flow Based on DenseNet, China, ZL201811002046.1, 2021.01.19, Certificate of Authorization: 4210290; 3. A contactless AI perception method of human thermal comfort, China, ZL201910062196.X, 2020.11.03, Certificate of Authorization: No. 4067526; 4. A visibility detection method based on multi-layer vector graphics, China, ZL201610726145.9, 2019.02.12, Certificate of Authorization: No. 3250683; 5. A detection method of Traffic haze visibility based on dark channel prior and minimum image entropy, China, ZL201610227754.X, 2018.08.21, Certificate of Authorization: No. 3043004; 6. An estimation method of human thermal comfort based on AlphaPose, China, ZL 2019 1 084904.9, 2022.8.30, Certificate of Authorization: No. 5413968; 7. A haze fusion method based on dark channel prior, China, ZL 2020 1 1498689.7, 2022.7.22, Certificate of Authorization: 5328291. 8. A detection method of traffic haze visibility based on improved Inception V4 network,，China, ZL 2019 1 0160058.5, 2022.8.23, Certificate of Authorization: 5403323. | | |
| **个人简介**  **Personal Profile** | Prof. Dr. Xiaogang Cheng, male, master supervisor, majoring in signal and information processing, was selected into the Provincial Hundred Talents Program in 2021. He graduated from Southeast University (top 18 in China) and Nanjing University (top 5 in China) successively, and completed his postdoctoral research at the Royal Institute of Technology in Sweden (KTH, top 200 in the world) and AI lab of ETH Zurich in Switzerland (ETHZ, top 9 in the world). Currently he work and study at the School of Communication and Information Engineering, Nanjing University of Posts and Telecommunications.  His research interest is computer vision and its interdisciplinary application. He published 32 academic papers, where 6 papers of them were included in JCR Q1 of SCI, and he won 10 Chinese invention patents. The academic prizes or honor he got are as follows.  [1] Science and Technology Strong Police Award of Jiangsu Provincial Public Security Department (the first level prize);  [2] The chief expert of the Jiangsu Association for Science and Technology;  [3] The outstanding academic supervisor of the open project in the Nanjing University of Posts and Telecommunications;  [4] Supported by the China Postdoctoral international Exchange Program.  In recent years, Prof. Dr. Cheng has been hosted over 2 national projects, 3 provincial level projects and more than 2 million yuan project of School-enterprise cooperation project, including the National Natural Science Foundation of China, the key research and development plan of Jiangsu Province. He also participated in the key national science and technology project and Swedish Kempe Fund project.  Prof. Dr. Cheng has trained 31 graduate students and they worked in Huawei, Baidu, etc. He also has guided undergraduate or graduate students to get the following competition awards:  [1] The National University IoT and Application (Three Innovations) competition (The second and third prizes);  [2] The 15th China Postgraduate competition in the electronic design ( The third prize, region selection competition);  [3] The 18th WUYI Mathematical Contest in Modeling (The first prize);  [4] The 7th "Beidou Cup" innovation competition of College Student Science and Technology (The second prize);  [5] The National IoT design Competition (The first prized in final national contest).  Main academic achievements of Prof. Dr. Cheng are as follows: (1) Open up an interdisciplinary sub-direction and commit to industrialization. This sub-direction is vision-based contactless detection technology of human thermal comfort, (2) Research and development of vision-based detection terminals. While improving production efficiency, it liberates employees from "observing industrial defective products with the naked eye under strong light" and "harsh environment of garbage disposal", which has huge social and economic benefits.  The Main research topic of Prof. Dr. Cheng are:  **Topic 1.** Contactless thermal comfort perception for humanistic intelligent building   1. **Project:** Contactless thermal comfort perception based on deep learning 2. **Methodology:** Machine learning (Deep Learning), computer vision 3. **Interdisciplinary subjects:** Computer vision, machine learning and building physics 4. **Motivation:** Energy saving, Human-centered indoor environment 5. **Philosophical idea:** Thermal comfort through perception 6. **Cooperation:** ETH Zürich Switzerland, KTH Sweden, UMU Sweden, LBNL USA, XAUAT China, THU China.   **Topic 2.** Chemputer (chemistry + computer)   1. **Project:** Flexible sensing technology in artificial intelligence chemists 2. **Methodology:** Machine learning (Deep Learning), computer vision 3. **Interdisciplinary subjects:** Computer vision, Chemistry 4. **Motivation:** Free chemists from tedious, repetitive chemical experiments | | |