

YUCHONG ZHANG

PHD CANDIDATE | MARIE CURIE ITN ESR | 📍 GOTHENBURG, SE-41756, SWEDEN | 📞 +46-701493091

◦ DETAILS ◦

Kuggen 3.18, Lindholmsplatsen 1
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◦ LINKS ◦

[Personal webpage](#)

[Google scholar](#)

[Linkedin](#)

[ResearchGate](#)

◦ SKILLS ◦

Knowledge of MS Office

Python

MATLAB Programming

LaTeX

Machine Learning

Tableau

IBM SPSS Statistics

Unity

Communication and Presentation

Augmented reality/mixed reality
(AR/MR)

◦ LANGUAGES ◦

Chinese

English

Japanese

Swedish

👤 PROFILE

I'm currently a Ph.D. student at [Chalmers University of Technology](#) as well as a Marie Curie Early Stage Researcher at [TOMOCON](#). My research interests include human-computer interaction, visualisation and machine learning. Now I'm mainly researching on human-centered design for the support of interactive visualizations on industrial tomography.

📁 EMPLOYMENT HISTORY

Visiting Researcher at SIEMENS AG, Munich

October 2019 — November 2019

Research on Human-Computer Interaction (HCI) and visualisation in microwave drying process for porous foams with tomography.

Visiting Researcher at Karlsruhe Institute of Technology , Karlsruhe

November 2018 — June 2019

Research on Human-Computer Interaction (HCI) and visualisation in microwave drying process for porous foams with tomography.

Marie Curie Early Stage Researcher at Chalmers University of Technology , Göteborg

August 2018 — Present

Research on Human-Computer Interaction (HCI) and visualisation in industrial tomography. Deal with the question of how to present process volumetric data from tomography in time and space to human operator and how to optimise the machine interface for such data. This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 764902.

Research Associate at Nanyang Technological University , Singapore

April 2018 — July 2018

Mainly concentrate on data mining and NLP. Mine data from social medias like Twitter and Facebook, regarding famous media accounts such as CNN, BBC, WSJ, etc. Handle the data mined with data clearance and some common NLP operations like stem, lemmatize, sentiment analysis, etc. Eligible to do Python programming.

Research Assistant at Singapore Management University , Singapore

September 2017 — April 2018

Focus on data analysis. Deal with data from discharge summaries from National University Hospital. Familiar with using deep learning methods to do data analysis. Familiar with basic NLP processing, text classification and data science. Eligible to use Python, familiar with Tensorflow, Keras, NLTK, Pandas, Scikit-learn, Numpy, etc.

Data Trainee at CNRS/Université Paris Descartes , Paris

September 2015 — April 2016

Work on massive data from synchrotron radiation-based Fourier-transform infrared spectroscopy. Use Principal Component Analysis (PCA) and Partial Least Squares Regression (PLSR) to do analysis. Proficient in OMINIC and Unscrambler. The research results were used in the **SOLEIL Synchrotron**.

🎓 EDUCATION

Ph.D., Chalmers University of Technology, Göteborg

August 2018 — Present

Affiliated with [t2i interaction laboratory](#).

Department of Computer Science and Engineering.

Ph.D. in Human-Computer Interaction (HCI), Visualisation, Computer Vision.

MSc., Nanyang Technological University, Singapore

July 2016 — August 2017

School of Electrical and Electronics Engineering.

Master of Science: Computer Control and Automation.

BEng., Hangzhou Dianzi University, Hangzhou

September 2012 — June 2016

School of Automation.

Bachelor of Engineering: Electrical Engineering and Automation.

GPA 4.2/5.0, average score 87/100, ranking top 5/146 for every academic session.

★ PUBLICATIONS

Zhang Y, Luo H, Wang H, Zheng Z, Ooi OC. Validation of prognostic accuracy of the SOFA score, SIRS criteria, and qSOFA score for in-hospital mortality among cardiac-, thoracic-, and vascular-surgery patients admitted to a cardiothoracic intensive care unit. *Journal of cardiac surgery*. 2019 Nov 11. [\[link\]](#)

Yuchong Zhang, Yong Ma, Adel Omrani, Rahul Yadav, Morten Fjeld, and Marco Fratarcangeli. 2019. Automatic Image Segmentation for Microwave Tomography (MWT): From Implementation to Comparative Evaluation. In *Proceedings of the 12th International Symposium on Visual Information Communication and Interaction (VINCI'2019)*. ACM, New York, NY, USA, Article 26, 2 pages. DOI: <https://doi.org/10.1145/3356422.3356437>.

Mehmet Aydin Baytas, Damla Çay, **Yuchong Zhang**, Mohammad Obaid, Asim Evren Yantaç, and Morten Fjeld. 2019. The Design of Social Drones: A Review of Studies on Autonomous Flyers in Inhabited Environments. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19)*. ACM, New York, NY, USA, Paper 250, 13 pages. DOI: <https://doi.org/10.1145/3290605.3300480>.

(Best presentation award) Zhang, Yuchong, and Morten Fjeld. "Condition Monitoring for Confined Industrial Process Based on Infrared Images by Using Deep Neural Network and Variants." In *Proceedings of the 2020 2nd International Conference on Image, Video and Signal Processing*, pp. 99-106. 2020. DOI: <https://doi.org/10.1145/3388818.3388823>.

Yuchong Zhang, Morten Fjeld, Alan Said, and Marco Fratarcangeli. 2020. Task-based Colormap Design Supporting Visual Comprehension in Process Tomography. In *Proceedings of EuroVis 2020*. ACM, New York, NY, USA. [\[link\]](#)

Yuchong Zhang, Yong Ma, Adel Omrani, Rahul Yadav, Morten Fjeld, and Marco Fratarcangeli. 2020. Automated Microwave Tomography (MWT) Image Segmentation: State-of-the-Art Implementation and Evaluation In *Proceedings of International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision 2020 (WSCG'2020)*. [\[link\]](#)

- **Zhang, Yuchong**, and Morten Fjeld. "“I Am Told to Be Happy”": An Exploration of Deep Learning in Affective Colormaps in Industrial Tomography "In *Proceedings of 2021 2nd International Conference on Artificial Intelligence and Information Systems (ICAIS' 21)*. [[link](#)]
- **Zhang, Yuchong**, Morten Fjeld, Marco Fratarcangeli, Alan Said, and Shengdong Zhao. 2021. "Affective Colormap Design for Accurate Visual Comprehension in Industrial Tomography" *Sensors* 21, no. 14: 4766. [[link](#)]
- **(Best paper award) Y. Zhang**, R. Yadav, A. Omrani, and M. Fjeld, "A novel augmented reality system to support volumetric visualization in industrial process tomography," in *International Conference on Intelligent Human Computer Interaction*, 2021. [[link](#)]
- **Yuchong Zhang**, Adam Nowak, Andrzej Romanowski, and Morten Fjeld. 2021. Augmented Reality with Industrial Process Tomography: To Support Complex Data Analysis in 3D Space. In Adjunct Proceedings of the 2021 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2021 ACM International Symposium on Wearable Computers. [[link](#)]
- **Zhang, Yuchong**, Adel Omrani, Rahul Yadav, and Morten Fjeld. "Supporting Visualization Analysis in Industrial Process Tomography by Using Augmented Reality—A Case Study of an Industrial Microwave Drying System." *Sensors* 21, no. 19 (2021): 6515. [[link](#)]
- **Yuchong Zhang**, Adam Nowak, Guruprasad Rao, Andrzej Romanowski, and Morten Fjeld. 2021. Is Industrial Tomography Ready for Augmented Reality? A Need-finding Study of How Augmented Reality Can Be Adopted by Industrial Tomography Experts. In In Proceedings of 2021 the 11th IEEE International Conference on Virtual Reality and Visualization (ICVRV). In press.

★ PRESENTATIONS

- **TOMOCON final symposium presentation, Toulouse**
August 2021
Technical presentation.
- **iHCI 2021 paper presentation, Online**
July 2021
Paper: A novel augmented reality system to support volumetric visualization in industrial process tomography.
- **Guest lecture in Lodz University of Technology, Lodz, Poland**
June 2021
Guest lecture for HCI master students.
- **CEDAS conference 2021, Bergen**
June 2021
Poster: Human-centred Machine Learning for Maritime Decision Support Systems.
- **ICAIS 2021 paper presentation, Chongqing**
May 2021
Paper: "I Am Told to Be Happy": An Exploration of Deep Learning in Affective Colormaps in Industrial Tomography.

○ **Licentiate thesis presentation, Gothenburg**

February 2021

Thesis presentation: The Magic of Vision: Understanding What Happens in the Process.

○ **The 3rd TOMOCON workshop, Lappeenranta**

July 2020

Technical presentation: Visual Analytics and Interactive Visualization for Microwave Drying of Porous Foams.

○ **EuroVis 2020 Short Paper Presentation, Norrköping**

May 2020

○ **WSCG 2020 Paper Presentation, Pilsen**

May 2020

○ **IVSP 2020 Paper Presentation (Best Presentation Award), Singapore**

March 2020

○ **The 2nd TOMOCON Workshop, Delft**

June 2019

Technical presentation: Visual Analytics and Interactive Visualization for Microwave Drying of Porous Foams. The workshop was in Delft University of Technology, Delft, Netherlands.

○ **Guest presentation in HZDR, Dresden**

April 2019

Technical presentation: Deep Learning for Microwave Drying of Porous Foams. The presentation was in Helmholtz-Zentrum Dresden Rossendorf, Dresden, Germany.

○ **Northern Lights Deep Learning Workshop 2019, Tromsø**

January 2019

Poster presentation on Learning Moisture Detection and Fault Detection in Industrial Microwave Drying Process. The workshop was in UiT The Arctic University of Norway, Tromsø, Norway.

○ **The 1st TOMOCON Workshop, Łódź**

September 2018

PechaKucha technical presentation: Human Computer Interaction and Visualisation for industrial microwave drying. The workshop was in Łódź University of Technology, Łódź, Poland.

★ **TEACHING**

○ **Algorithms for machine learning and inference, Chalmers**

May 2020 — June 2020

○ **Algorithms for machine learning and inference, Chalmers**

May 2019 — June 2019

★ **SUMMER SCHOOLS**

○ **The 3rd TOMOCON Summer School, Lappeenranta**

July 2020

- **The ACM Summer School on Recommender Systems 2019, Göteborg**
September 2019
Both as **participant** and **volunteer**.
- **TOMOCON-2nd Summer School on process tomography, data processing and innovation, Delft**
July 2019
- **TOMOCON-1st Summer School on Industrial Sensors and Control, Łódź**
September 2018
- **The 4th ACM SIGCHI Summer School on Computational Interaction, Cambridge**
August 2018

★ PROFESSIONAL CERTIFICATE

- **Convolutional neural networks, Coursera**
January 2018
- **Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization, Coursera**
January 2018

★ AWARDS & HONOURS

- **China National Scholarship (1% winning percentage)**
October 2015
- **China National 1st Prize of National Mathematical Contest in Modelling (top 1.5%)**
October 2014
- **Honourable Mention of Mathematical and Interdisciplinary Contest in Modelling**
February 2015
- **“Top Ten Excellence Award” of Hangzhou Dianzi University**
April 2015
- **First Prize Scholarship of Hangzhou Dianzi University**
2014 — 2016

🍃 EXTRA-CURRICULAR ACTIVITIES

- **Student Volunteer of Human-Agent Interaction (HAI) 2020**
November 2020
- **Student Volunteer of The ACM Summer School on Recommender Systems 2019**
September 2019
- **Freshman counselor assistant at Hangzhou Dianzi University**
2014 — 2016
- **Vice president of debating society in College of Automation at Hangzhou Dianzi University**
2013 — 2015