Dongmei Mo

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The Hong Kong Polytechnic University (PolyU) Laboratory for Artificial Intelligence in Design (AiDLab)

Job Experience

- **School of Fashion and Textiles | The Hong Kong Polytechnic University (PolyU)** *Spring 2025*
  Guest Lecturer Hong Kong, China
  - Developing a new subject of Fashion Market Intelligence, using machine learning and AI methods for decision making in fashion businesses.

- **AiDLab | School of Fashion and Textiles | PolyU [🏛]** *Mar. 2022 - Present*
  Postdoctoral fellow | Supervisor: Prof. Wai Keung Wong Hong Kong, China
  - Developing research in intelligent fashion analysis and recommendation, participating in projects of AI-based design system and aesthetic evaluation system, supervising and collaborating PHD students for paper submission and etc.

- **Dept. of Computer Science | Centre for AI | University College London [🏛]** *Jul. 2023 - Dec. 2024*
  Visiting Scholar | Collaborator: Prof. Marc Deisenroth London, UK
  - Applying machine learning methods for fashion analysis, classification and generation.

- **Institute of Industrial Automation and Software Engineering | University of Stuttgart [🏛]** *Aug. - Dec. 2024*
  Visiting Researcher | Collaborator: Prof. Dr. Florian Pfaff Stuttgart, Germany
  - Developing ML and AI methods for stylist recommendation and generation, also participate in funding application.

Education

- **School of Fashion and Textile | PolyU** *Sep. 2018 - Feb. 2022*
  Ph.D. | Supervisor: Prof. Wai Keung Wong Hong Kong, China
  - Thesis: Development of a computer vision model for quality inspection in textile industry

- **College of Computer Science and Software Engineering | Shenzhen University** *Sep. 2015 - Jun. 2018*
  M.A. | Supervisor: Prof. Zhihui Lai Shenzhen, China
  - Thesis: Image feature extraction based on jointly sparse and generalized orthogonal regression

Supervision

- **Shuai Lyu | 4th Year | Ph.D. candidate** *01 Sep. 2020 - present*
  Supervision PolyU, Hong Kong
  - Topic: Developing intelligent methods for Industrial anomaly detection
  - Achievement: two papers have been completed, one accepted on Top 1 journal,one accepted by AAAI 2025; thesis draft completed

Teaching Experience

- **ITC4068M-Merchandising Management** *Autumn 2020*
  Teaching assistant School of Fashion and Textile, PolyU
  - Responsibility: supervising experiment implementation, project presentation and score assessment

- **ITC4085E-Omni-Channel Fashion Marketing and Retailing** *Spring&Autumn 2019*
  Teaching assistant School of Fashion and Textile, PolyU
  - Responsibility: assisting students in formulating the omni-channel strategy and planning for fashion brands; introducing latest technologies to develop the mobile and social media applications for brand promotion.

- **ITC2019M-Management Principles in the Fashion Business** *Spring 2019*
  Teaching assistant School of Fashion and Textile, PolyU
  - Responsibility: introducing management principles in theoretical and practical perspectives, supervising experiment and group project.

Project Experience

- **AI-based Interactive Design Assistant for Fashion (AiDA)** *Mar. 2022 - Present*
  Research team member The InnoHK Research Clusters, Hong Kong
  - Responsibility: mainly focus on developing aesthetic methods for collection generation and designer preference analysis. Meanwhile, collaborating with team members for prototype design and testing, and platform demonstration.
  - Achievement: the research outputs have now formed a design assistant for streamlining the process of developing fashion collections. The first collaboration of the assistant and designers was presented in a Fashion X AI fashion show in Dec. 2022.

- **Intelligent Fashion Aesthetic Evaluation System** *Oct. 2022 - Present*
  Research team member The InnoHK Research Clusters, Hong Kong
  - Responsibility: mainly engaged in developing compatibility learning methods for personalized outfit recommendation and generation. Meanwhile, participating in the framework design of the prototype based on the research outputs.
  - Achievement: the research outputs have now formed a prototype and are ready for trial in the market for enhancing fashion retailing.

Event Committee

- **Fashion x AI: 2022-2023 International Salon- Mini Forum** *08 Sep. 2023*
  Research team member Fabrica X, London, UK
  - Responsibility: introducing AI-empowered design solutions and the AiDA system in the Exhibition.

- **Fashion X AI 2022-2023: International Symposium** *17 Feb. 2023*
  On-Site Management The Mills Fabrica, Hong Kong
  - Responsibility: providing service of AiDA platform demonstration and tutorial to the participants.

- **HKTDC Lifestyle Fairs Media Tea Gathering** *03 Apr. 2023*
  Presenter Harbour City, Hong Kong
  - Responsibility: interpretation of the AI technologies for intelligent fashion design.

- **Fashion X AI 2022-2023: Fashion Show & Forum** *19 Dec. 2022*
  Research team member M+ art museum, Hong Kong
  - Responsibility: intelligent design assistance, system testing and fashion show feedback collection.

Conference and Invited Talks

- **Institute of Industrial Automation and Software Engineering | University of Stuttgart** *11 Nov. 2024*
  Oral Presentation Stuttgart, Germany
  - Topic: AI-Driven Fashion: From Recommendation to Creative Design

- **Sustainability and Machine Learning Group| Research Day | UCL** *26 Oct. 2024*
  Oral Presentation London, UK
  - Topic: A Comparative Study of Stationary and Non-Stationary Kernels in Gaussian Processes: Application to Forecasting Unpatterned Data

- **School of Fashion and Textile | PolyU** *17 Jul. 2024*
  Oral Presentation Hong Kong, China
  - Topic: Machine learning methods for fashion market intelligence

- **2023 British Machine Vision Conference** *20-24 Nov. 2023*
  Poster presentation Aberdeen, UK
  - Paper: Personalized Fashion Recommendation via Deep Personality Learning

- **Gaussian Process Summer Schools | The University of Manchester** *11-14 Sep. 2023*
  Participant Manchester, UK
  - Topic: learning Gaussian process models in both theory and practice

- **Open session Presentation | DeepLearn 2023** *16-21 Jul. 2023*
  Oral Presentation Las Palmas de Gran Canaria, Spain

◦ Topic: fashion meets AGI: an intelligent knowledgeable expert

- **INFORMS 2021 Annual Meeting** *28 Oct. 2022*
  Oral Presentation Remote
  ◦ Topic: consumer experience enhancement: intelligent fashion evaluation and recommendation

- **East China Jiaotong University** *19 Jul. 2021*
  Oral presentation Jiangxi, China
  ◦ Topic: Image feature extraction and its applications for fashion industry

- **AIFT 2019 - The 2nd Artificial Intelligence on Fashion & Textile International Conference** *25-27 Nov. 2019*
  Oral presentation Shanghai , China
  ◦ Paper: Fabric Defect Classification based on Deep Hashing Learning

- **2018 Pattern Recognition and Computer Vision: Chinese Conference** *23-26 Nov. 2018*
  Oral presentation Guangzhou, China
  ◦ Paper: Robust jointly sparse regression for image feature selection

- **2017 4th IAPR Asian Conference on Pattern Recognition (ACPR)** *26-29 Nov. 2017*
  Oral presentation Nanjing, China
  ◦ Paper: Robust jointly sparse regression for image feature selection

Industrial Experience

- **AsiaInfo Technologies Limited [👤]** *Dec. 2014 - Aug. 2015*
  Advanced Engineer Guangzhou, China
  ◦ Responsible for developing and maintaining customer relationship management system, handling billing, big data, customer service, and network management, using C++, JAVA, etc.

- **Embraiz Software Technologies Limited [👤]** *Jun. 2013 - Jun. 2014*
  Software Engineer Guangzhou, China
  ◦ Responsible for software development, SEO (search engine optimization), Web development, Flash development, Facebook campaign, Weibo campaign, online shopping, using Python, JAVA, Flash, Mobile, HTML5.

Service to the Research Community

Reviewing IEEE Transactions on Neural Networks and Learning Systems, IEEE Transactions on Multimedia, IEEE Transactions on Circuits and Systems for Video, Pattern Recognition, Expert Systems with Applications, Neurocomputing, Computer Communication, Measurement, IEEE Transactions on Emerging Topics in Computational Intelligence.

Languages

English: Proficient | **Cantonese**: Mother tongue | **Mandarin**: Mother tongue

Honors and Awards

- **Research Talent Hub - Innovation and Technology Fund** *Mar. 2022*
  Hong Kong

- **National Scholarship** *Oct. 2017*
  China
  ◦ Ranked in the top 3% of all students at the university

- **Outstanding Postgraduate** *Jun. 2018*
  Shenzhen University, China
  ◦ Graduated in the top 10% of all students at the university

SELECTED PUBLICATIONS

C=CONFERENCE, J=JOURNAL, P=PATENT, S=IN SUBMISSION, T=THESIS

Google Scholar https://scholar.google.com/citations?user=1gDNzaQAAAAJ

Citations 349 (02/2025)

h-index 9 (02/2025)

i10-index 8 (02/2025)

[J.1] L. Shuai, **D. Mo** and W. Wong. "REB: Reducing biases in representation for industrial anomaly detection." Knowledge-Based Systems 290 (2024): 111563.

[C.1] **D. Mo**, X. Zou, and W. Wong. "Super stylist: personalized fashion recommendation via deep personality learning", The British Machine Vision Conference (BMVC) 2023.

[J.2] **D. Mo**, Z. Lai, J. Zhou, et al. "Scatter matrix decomposition for jointly sparse learning[J]". Pattern Recognition, 2023, 140: 109485.

[J.3] **D. Mo**, X. Zou, and W. Wong. "Towards private stylists via personalized compatibility learning[J]", Expert Systems with Applications, 2023: 119632.

[J.4] **D. Mo**, X. Zou, and W. Wong. "Neural stylist: Towards online styling service[J]", Expert Systems with Applications, 2022: 117333.

[T1] **D. Mo**. "Development of a computer vision model for quality inspection in textile industry", Institute of Textiles and Clothing, PolyU, 2022.

[J.5] **D. Mo**, W. Wong, Z. Lai. "Weighted double low-rank decomposition with application to fabric defect detection[J]", IEEE Transactions on Automation Science and Engineering 2020, (18.3): 1170-1190.

[J.6] **D. Mo**, X. Liu, Y. Ge and W. Wong. "Concentrated hashing with neighborhood embedding for image retrieval and classification[J]", International Journal of Machine Learning and Cybernetics, 2022, 13(6): 1571-1587.

[J.7] **D. Mo**, Z. Lai, W. Wong. "Jointly sparse locality regression for feature extraction[J]", IEEE Transactions on Multimedia, 2019, 22(11): 2873-2888.

[J.8] **D. Mo**, and Z. Lai. "Robust jointly sparse regression with generalized orthogonal learning for image feature selection[J]", Pattern Recognition, 2019, 93: 164-178.

[J.9] **D. Mo**, Z. Lai, and W. Wong. "Locally joint sparse marginal embedding for feature extraction[J]", IEEE Transactions on Multimedia, 2019, 21(12): 3038-3052.

[J.10] Z. Lai, **D. Mo**, et al. "Robust discriminant regression for feature extraction[J]", IEEE Transactions on Cybernetics, 2017, 48(8): 2472-2484.

[J.11] Z. Lai, **D. Mo**, Wen J, et al. "Generalized robust regression for jointly sparse subspace learning[J]". IEEE Transactions on Circuits and Systems for Video Technology, 2018, 29(3): 756-772.

[J.12] **D. Mo** and W. Wong. "Fabric Defect Classification based on Deep Hashing Learning." AATCC Journal of Research 8.1_suppl (2021): 191-201.

[J.13] **D. Mo**, Z. Lai et al. "Robust jointly sparse regression and its applications." Journal of Ambient Intelligence and Humanized Computing 9 (2018): 1797-1807.

[C.2] **D. Mo** and Z. Lai. "Robust jointly sparse regression for image feature selection." 2017 4th IAPR Asian Conference on Pattern Recognition (ACPR). IEEE, 2017.

[C.3] **D. Mo**, Z. Lai et al. "Jointly Sparse Reconstructed Regression Learning." Pattern Recognition and Computer Vision: First Chinese Conference, PRCV 2018, Guangzhou, China, November 23-26, 2018, Proceedings, Part III 1. Springer International Publishing, 2018.

[C.4] Y. Meng, **D. Mo** et al. Robust Feature Extraction for Material Image Retrieval in Fashion Accessory Management. AIFT Conference 2018, Hong Kong, July 36, 2018. Springer International Publishing, 2019: 299-305.

RESEARCH IN PROGRESS

[1] **D. Mo**, D. Souza, X. Zou, W. Wong, M. Deisenroth. "Fashion brand analysis: from classification to identity fuzziness learning."

[2] **D. Mo**, D. Souza, X. Zou, W. Wong, M. Deisenroth. "Exploring Gaussian Process Models for Advanced Textual-Visual Understanding: An Empirical Study on Fashion Design" (submitted to IEEE Transactions on Neural Networks and Learning Systems).

[3] **D. Mo** D. Souza, X. Zou, F. Pfaff, W. Wong, M. Deisenroth. "AI in Branding Fashion Design: Learning Historical Characteristics for Innovative Generation."

REFEREES

1 Wai Keung Wong Calvin (supervisor) | Professor at PolyU and Centre Director of AiDLab | calvin.wong@polyu.edu.hk

2 Marc Deisenroth (collaborator) | Professor at University College London & The Alan Turing Institute & Google DeepMind Chair of ML and AI | m.deisenroth@ucl.ac.uk

3 Florian Pfaff (collaborator) | Assistant professor at University of Stuttgart | florian.pfaff@ias.uni-stuttgart.de