Chengdong "Black" SUN

✉ cd.black.sun@gmail.com | in Linkedin | 🌐 Personal Website | 🎓 Google Scholar

EDUCATION

• **Aarhus University** *Aug 2024 - Jul 2026*
*MSc in Computer Science (Focus Area in **Human-Computer Interaction** and **Ubiquitous Computing**)* Aarhus, Denmark
  ◦ *Award:* Danish State Scholarship
  ◦ *GPA:* 8.7/12

• **National University of Singapore** *May 2023 - Jul 2023*
Summer School, Web Mining Singapore
  ◦ *Performance:* A

• **Harbin Institue of Technology, Shenzhen** *Sep 2020 - Jul 2024*
BEng in Computer Science and Technology Shenzhen, China
  ◦ *GPA:* 86.5/100

RESEARCH INTERESTS

My research interests lie at the intersection of **Health** and **Social Computing**, with a focus on developing technologies that enhance individual health and well-being. I am also passionate about analyzing data from digital platforms to gain insights into how technology reflects and shapes specific communities.

PEER-REVIEWED FULL PAPERS
C=CONFERENCE, *=EQUAL CONTRIBUTION

[C.2] **Breaking Barriers or Building Dependency? Exploring Team-LLM Collaboration in AI-infused Classroom Debate**.
Zihan Zhang*, <u>Black Sun</u>*, Pengcheng An.
In Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI '25).

[C.1] (🏆 Best Student Paper) **NeuroFetalNet: Advancing Remote Electronic Fetal Monitoring with a New Dataset and Comparative Analysis of FHR and UCP Impact**.
<u>Black Sun</u>, Jiaqi Zhao, Xinrong Miao, Yanqiao Wu, Min Fang.
In Proceedings of the IEEE International Conference on Digital Health (ICDH '24).

PEER-REVIEWED EXTENDED ABSTRACTS
*=EQUAL CONTRIBUTION

[EA.3] (accepted) **CTG-Insight: A Multi-Agent Interpretable LLM Framework for Cardiotocography Analysis and Classification**.
<u>Black Sun</u>, Die (Delia) Hu.
In Companion of the ACM International Joint Conference on Pervasive and Ubiquitous Computing (Ubicomp Companion '25) WellComp 2025.

[EA.2] (accepted) **Exploring the Effects of AI Nonverbal Emotional Cues on Human Decision Certainty in Moral Dilemmas**.
Chenyi Zhang, Zhenhao Zhang, Wei Zhang, Tian Zeng, <u>Black Sun</u>, Jian Zhao, Pengcheng An.
In Companion of the ACM International Joint Conference on Pervasive and Ubiquitous Computing (Ubicomp Companion '25) Poster.

[EA.1] **MultiSurf-GPT: Facilitating Context-Aware Reasoning with Large-Scale Language Models for Multimodal Surface Sensing**.
Yongquan Hu, <u>Black Sun</u>, Pengcheng An, Zhuying Li, Wen Hu, Aaron J Quigley.
In Adjunct Proceedings of the International Conference on Mobile Human-Computer Interaction (MobileHCI '24 Adjunct) Late-Breaking Work.

RESEARCH EXPERIENCE

• **Blended Realities Lab, Aarhus University [🌐]** *June 2025 - Present*
Research Intern, supervised by Assistant Prof. Jens Emil Grønbæk and Associate Prof. Eve Hoggan Aarhus, Denmark
  ◦ Co-developed MagCue to explore magnetic force-based haptic feedback in hybrid meetings.
  ◦ Designed and conducted a user study to evaluate interaction patterns, spatial presence, and engagement.
  ◦ Analyzed qualitative and quantitative data to inform the design of future hybrid collaboration tools.

• **AI4SG Lab, National University of Singapore [🌐]** *May 2025 - Present*
Research Intern, supervised by Assistant Prof. Yi-Chieh Lee Remote
  ◦ Investigated the emotional impact of AI influencers on elderly users across Chinese social media platforms.

- Led semi-structured interviews to understand emotional motivations, trust, and perceived risks in parasocial relationships with AI agents.
- Derived system design implications for creating emotionally responsible and elder-inclusive AI technologies.

- **Interactive Matter Lab, Aarhus University [🌐]** *Nov 2024 - Apr 2025*
  Research Intern, supervised by Assistant Prof. Michael Wessely Aarhus, Denmark
  - Contributed to BIOral, a modular intraoral biosensing platform for health monitoring and drug delivery.
  - Designed and conducted expert interviews with dentists to identify clinical needs and usability requirements.
  - Developed a pH-sensing evaluation pipeline, including data generation, colorimetric analysis, and a machine learning model (MAE = 0.27) for accurate prediction.

- **ai{DEAL} Studio, Southern University of Science and Technology [🌐]** *Oct 2023 - Dec 2024*
  Research Assistant, supervised by Assistant Prof. Pengcheng An Shenzhen, China
  - Developed interactive AI systems using Large Language Models (LLMs), leading prompt engineering and system implementation.
  - Built an Augmented Reality (AR) classroom enhancement prototype using Unity and Rokid AR glasses.
  - Researched AI-assisted decision-making and AI-infused classroom debates.
  - Co-authored a paper accepted to CHI '25 (see [C.2]).

RESEARCH PROJECTS

- **Exploring AI in Classroom Debates to Study High-paced Human-AI Collaboration** *Jan 2024 - Sep 2024*
  Supervisor: Assistant Prof. Pengcheng An, ai{DEAL} Studio, SUSTech
  - Investigated the impact of integrating ChatGPT 3.5 into real-time classroom debates on collaborative learning and student behavior.
  - Applied thematic and content analysis to evaluate student interactions and optimize AI tool integration in educational settings.
  - Analyzed the benefits, risks, and contradictions of AI-supported debate environments, focusing on cognitive dependence and learning efficiency.
  - Accepted as a full paper for presentation at CHI '25 (see [C.2]).

- **NeuroFetalNet: Enhancing Remote Electronic Fetal Monitoring with Deep Learning** *Jun 2023 - Jun 2024*
  Team Leader, Supervisor: Lect. Min Fang, HITSZ [🔗]
  - Processed over 20,000 REFM data entries from pregnant women, addressing noise and abnormalities to ensure data quality for maternal healthcare analysis.
  - Developed and evaluated NeuroFetalNet, a deep learning model with multi-scale feature extractors that achieved superior accuracy compared to state-of-the-art (SOTA) models. Analyzed the impact of various inputs (FHR, UCP, and combined) on model prediction performance.
  - Awarded the ICDH '24 Best Student Paper and funded by the China College Students Innovation and Entrepreneurship Project (National Level) (see [C.1]).

SKILLS

- **Programming Languages:** Python, Java, C++, C
- **Front End:** HTML/CSS, JavaScript, React, Gradio
- **Game Development:** Unity
- **Hardware Development:** Arduino, Raspberry Pi
- **Machine Learning & Deep Learning & Graphics:** PyTorch, Scikit-Learn, OpenCV, OpenGL
- **Large Language Models (LLMs):** fine-tuning, prompt engineering, LangChain, AgentScope, OpenAI Assistants
- **Qualitative Research:** User Interviews, Ethnography, Think-Aloud, Grounded Theory Analysis
- **Quantitative Research:** Experimental Design, Statistical Analysis, Survey Design, Usability Testing and Metrics

HONORS AND AWARDS

- **Student Travel Fund (Studenterrejsepuljen), Aarhus University** *Sep 2025*
- **Danish State Scholarship*1** *Aug 2024*
- **ICDH '24 Best Student Paper** *Jul 2024*
- **China College Students' Innovation and Entrepreneurship Project (National Level, Top 5%)** *Jun 2024*

ACADEMIC SERVICE

- **Reviewer:** IJCNN '24, CSCW '25 Poster
- **Student Volunteer:** Ubicomp '25