Harvey Mannering

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SUMMARY

I am currently working on my PhD at the University of Southampton under the supervision of Zhiwu Huang. My research interests are around generative models, affective computing and ethical AI. Prior to my PhD I gained four years experience as a software developer, include one year in at UCL's Advanced Research Computing Center.

EDUCATION

- **University of Southampton**
  PhD Computer Science   *2024 – Present*
  - **Areas of Interest**: Generative AI, Diffusion Models, Affective Computing, Safe and Ethical AI, Python, PyTorch

- **UCL**
  MSc Computer Graphics, Vision and Imaging; Distinction   *2021 – 2022*
  - **Project**: Worked with Gabriel Brostow's group to extend glass detection in RGB images in to the videos domain. Draws heavily on the literature surrounding segmentation and deep active learning. Project page and full report can be found here.
  - **Specialist Areas**: Deep Learning, Machine Learning for Medical Imaging, Image Processing, Computer Graphics, Numerical Optimisation, Python, PyTorch

- **University of Southampton**
  BSc Computer Science; 2.1   *2014 – 2017*
  - **Project**: Translated musical audio signals into sheet music using signal processing and machine learning techniques.
  - **Specialist Areas**: Computer Vision, Machine Learning, Signal Processing, Databases, Computer Graphics, Embedded Systems, Java, C, C++, MatLab

EXPERIENCE

- **UCL**   **London, England**
  Research Software Engineer   *October 2022 - September 2023*
  - Collaborated with researchers to build and maintain various healthcare tools, such as a real time hospital database that is used for machine learning research.
  - Helped launch a deep learning and computer vision journal club. Learnt best practices for developing research software.

- **PE.Fiberoptics**   **Wokingham, England**
  Software Engineer   *January 2020 - September 2021*
  - Worked as the R&D department's main software engineer. Used C# and WPF to implement signal processing and image processing algorithms. Implemented and managed version control for the company.

- **Gamma Telecoms**   **Newbury, England**
  Software Developer/Analyst   *August 2017 – March 2019*
  - Gained direct experience with Java, MS SQL, Git, HTML, CSS, JavaScript, Jenkins and Git. Full stack developer collaborating with seven other developers within an agile framework.

PUBLICATIONS

- Iskandar, M., Mannering, H., Sun, Z., Matthew, J., Kerdegari, H., Peralta, L. and Xochicale, M., 2023. Towards Realistic Ultrasound Fetal Brain Imaging Synthesis. arXiv preprint arXiv:2304.03941.

- Mannering, H., 2023. Analysing Gender Bias in Text-to-Image Models using Object Detection. arXiv preprint arXiv:2307.08025.