Wenjing Bian

📞 +44(0) 7864 609534

✉ wenjing@robots.ox.ac.uk

🔗 https://bianwenjing.github.io

🎓 https://scholar.google.com/citations?user=IVfbqkgAAAAJ&hl=en

⬡ https://github.com/bianwenjing

in https://www.linkedin.com/in/wenjing-b-02932714a

I am a DPhil student at the University of Oxford, supervised by **Prof. Victor Adrian Prisacariu** and **Prof. Andrea Vedaldi**. My research focuses on understanding the 3D world from images and videos, leveraging learning-based priors. I am particularly interested in tasks such as 3D reconstruction, 3D object detection, and visual localisation. Recently, my work has explored the application of diffusion models to 3D representations.

Education

2020 – present   🔖 **DPhil, Engineering Science**, Active Vision Laboratory, University of Oxford.
Research Interests: *3D Reconstruction, 3D Detection, Visual Localisation, 3D Diffusion*
Supervisors: Prof. Victor Adrian Prisacariu, Prof. Andrea Vedaldi

2019 – 2020   🔖 **MEng, Engineering Science**, St. Anne's College, University of Oxford.
Graduated with First Class Honours
Supervisors: Prof. David Murray, Prof. Victor Adrian Prisacariu

2016 – 2019   🔖 **BA, Engineering Science**, St. Anne's College, University of Oxford.
Graduated with First Class Honours
Supervisors: Prof. David Murray, Prof. Budimir Rosic

Internship Experiences

07/2024 – 03/2025   🔖 **R&D Intern. Niantic Labs, UK.**
Project: *Scene Coordinate Regression with Diffusion Prior*.
· Enhanced the relocalisation performance and reconstruction quality for scene coordinate regression with a diffusion-based geometric prior.

08/2023 – 01/2024   🔖 **Research Scientist Intern. Meta Reality Lab, US.**
Project: *Diffusion Performance Improvement Network*.
· Enabled the training pipeline for 3D object detection on a large-scale dataset.
· Improved the performance of existing 3D object detection models by integrating diffusion techniques.

Research Publications

Conference Proceedings

1. **Wenjing Bian**, Z. Wang, and A. Vedaldi, "Catfree3d: Category-agnostic 3d object detection with diffusion," in *3DV (**Oral**)*, 2025. 🔗URL: https://bianwenjing.github.io/CatFree3D.

2. J.-W. Bian, **Wenjing Bian**, V. A. Prisacariu, and P. H. Torr, "Porf: Pose residual field for accurate neural surface reconstruction," in *ICLR*, 2024. 🔗URL: https://porf.active.vision.

3. Z. Wang, **Wenjing Bian**, and V. A. Prisacariu, "Crossscore: Towards multi-view image evaluation and scoring," in *ECCV*, 2024. 🔗URL: https://crossscore.active.vision.

4. **Wenjing Bian**, Z. Wang, K. Li, J. Bian, and V. A. Prisacariu, "Nope-nerf: Optimising neural radiance field with no pose prior," in *CVPR (**Highlight**)*, 2023. 🔗URL: https://nope-nerf.active.vision.

5. **Wenjing Bian**, Z. Wang, K. Li, and V. A. Prisacariu, "Ray-onet: Efficient 3d reconstruction from a single rgb image," in *BMVC*, 2021. 🔗URL: https://rayonet.active.vision.

Skills

Languages	English (fluent), Chinese (native), Japanese (conversational)
Tools & Frameworks	Python, PyTorch, MATLAB, JavaScript, Html, css
Technical Expertise	3D Reconstruction, Neural Radiance Fields, Gaussian Splatting, Diffusion Models, Scene Coordinate Regression, Visual Relocalisation

Awards and Prizes

2017	**Gibbs Prize, University of Oxford.** Awarded for ranking among the top 2 students in the Department of Engineering Science in the final examination.
2016-2020	**Awarded Scholarship, St. Anne's College, University of Oxford.** Awarded for academic excellence over the year.