

Omer F. Yildiran

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EDUCATION

Ph.D. Cognition and Perception - Computational Neuroscience

New York University (NYU), New York, NY

Sep 2024 – Present

MacCracken Fellowship

M.Sc. Cognitive Sciences (Cognitive Psychology & Neuroscience)

École Normale Supérieure (ENS) - PSL, Paris, France

Sep 2022 – Jun 2024

Honors

B.Sc. Psychology

Middle East Technical University, Ankara, Turkey

Aug 2018 – Jul 2022

Honors

B.Sc. Computer Engineering (Transferred)

Ankara University, Ankara, Turkey

2016 – 2018

TECHNICAL SKILLS

Programming: Python (PyTorch, NumPy, SciPy, OpenCV, scikit-learn), MATLAB, C#, R

Machine Learning: Deep Learning (CNNs, RNNs/PredRNN), Unsupervised Learning, Reinforcement Learning concepts

Perception & Sensing: Computer Vision, Multisensory Integration, Bayesian Inference, Stochastic Modeling

Simulation & Tools: Blender 3D (Python API, Physics Sim), Unity 3D, Git, Linux, Optimization algorithms

Research: Experimental Design, Statistical Modeling, Large-scale Dataset Generation

EXPERIENCE

Graduate Research Assistant – The Landy Lab, New York University

Jul 2024 – Present

- Developing computational models for **multisensory fusion** under uncertainty and sensory conflict
- Implementing **Bayesian inference** and stochastic models for optimal sensor integration decisions

Teaching Assistant – New York University

2025 – 2026

- Cognition & Perception (Spring 2026); Illusions to Inference: Perception (Fall 2025)

Research Scientist Intern – Centre for Perception and Cognition, Univ. of Southampton

Aug 2023 – Aug 2024

Research Scientist Intern – Perceptual Systems Lab (CNRS), ENS-PSL, Paris

Oct 2022 – Jun 2024

- Developed **probabilistic models** for temporal prediction and expectation under uncertainty

Machine Learning Research Assistant – Dörschner Lab, JLU Giessen

Oct 2021 – Jun 2023

- Trained **PredRNN-v2** deep network to predict **physical object properties** (material, motion) from video
- Built **simulation pipeline** in Blender Python API: 10K+ samples with physics, lighting, deformable objects
- Published peer-reviewed findings on unsupervised visual learning for **object recognition** under ambiguity

Research Assistant – METU Sensory Processes Lab

Oct 2020 – Jun 2022

- Developed **multimodal sensing** systems (audio-tactile-visual) for material/surface property estimation

PUBLICATIONS

- Maiello, G., [...], **Yildiran, O. F.**, et al. (2024). Continuous psychophysics. *Journal of Vision*, 24(10). [\[Link\]](#)
- **Yildiran, O. F.**, Storrs, K. R., Fleming, R. W., & Doerschner, K. (2023). Unsupervised learning predicts properties of non-rigid mirror objects. *Journal of Vision*, 23(9). [\[Link\]](#)
- Saint-Raymond, L., [...], **Yildiran, O. F.** (2022). George Viau's Collection: A Computational Approach. *Preprints*. [\[Link\]](#)
- **Yildiran, O. F.** & Dövençioğlu D. N. (2021). [Parchment Skin Illusion for Haptic Perception](#). *Perception*, 50(1_SUPPL).

SELECTED AWARDS & GRANTS

- **MacCracken Fellowship**, NYU – Full doctoral funding (2024–2029)
- **Berlin Science of Intelligence Grant** – Competitive research travel award (2023)
- **French Embassy Scholarship** – Merit-based master's funding, France (2022–2023)
- **Global Undergraduate Award** – Highly Commended, top 10% globally (2021)