

Terence Broad

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EDUCATION

- **Goldsmiths, University of London** London
PhD: Computer Science; Topic: Manipulating Deep Generative Models October 2018 - Present
 - Supervisors: Professor Mick Grierson, Professor Frederic Fol Leymarie.
- **Goldsmiths, University of London** London
MSci Creative Computing; Distinction September 2012 - July 2016

EXPERIENCE

- **UAL Creative Computing Institute** London
Visiting Researcher October 2019 - Present
 - Visiting researcher at the newly found Creative Computing Institute at the University of The Arts London. Part of the team researching Creativity, Machine Learning and AI.
- **Vivacity Labs** London
Machine Learning Research Engineer October 2016 - October 2018
 - Responsible for managing large bespoke datasets, training models and benchmarking and evaluating new methods and frameworks for low power IoT computer vision applications in the smart city sector.
 - Worked in the software team that built the bespoke C++ library for doing on-device machine learning and data processing for IoT traffic sensors.
- **Goldsmiths Digital** London
Software Engineer June 2016 - October 2016
 - Developed an automatic CV scraping tool using Python and RegEx for the MyEcho jobs platform.
- **Wevolver** London
Technical Writer November 2014 - May 2015
 - Writing instruction manuals for open-source robotics projects for the Wevolver platform.
- **FutureDeluxe** London
Creative Technologist - Intern May 2014 - October 2014
 - Creative technologist internship at the digital design studio FutureDeluxe where I worked on a number of bespoke software projects for the advertising campaigns of clients including Converse and NVIDIA.

CONFERENCE & WORKSHOP PROCEEDINGS

- Terence Broad, Sebastian Berns, Simon Colton and Mick Grierson, **Active Divergence with Generative Deep Learning - A Survey and Taxonomy**. Proceedings of the Twelfth International Conference on Computational Creativity (ICCC), 2021 (Oral presentation).
- Sebastian Berns, Simon Colton, Christian Gucklesburger and Terence Broad, **Automating Generative Deep Learning for Artistic Purposes: Challenges and Opportunities**. Proceedings of the Twelfth International Conference on Computational Creativity (ICCC), 2021.
- Terence Broad, Frederic Fol Leymarie and Mick Grierson, **Network Bending: Expressive Manipulation of Deep Generative Models**. Proceedings of the 10th International Conference on Artificial Intelligence in Music, Sound, Art and Design (EvoMUSART), 2021.
- Terence Broad, Frederic Fol Leymarie and Mick Grierson, **Amplifying The Uncanny**. Proceedings of the 8th Conference on Computation, Communication, Aesthetics & X (xCoAx), 2020.
- Terence Broad and Mick Grierson, **Searching for an (un)stable equilibrium: experiments in training generative models without data**. NeurIPS Workshop on Machine Learning for Creativity and Design 3.0, 2019.
- Shaun Howell, Simon Cole, Terence Broad and Tommi Maatta, **IoT and Machine Learning for Next Generation Traffic Systems**. Transport Practitioners Meeting, 2018.
- Terence Broad and Mick Grierson, **Light Field Completion Using Focal Stack Propagation**. SIGGRAPH '16 Posters, 2016.

JOURNAL ARTICLES

- Terence Broad and Mick Grierson, **Autoencoding Blade Runner: Reconstructing films with artificial neural networks**. Leonardo 50 (SIGGRAPH Art Papers Special Issue), 2017.

ACADEMIC THESES

- **Autoencoding Video Frames**. Masters Thesis, Goldsmiths, University of London, 2016.
- **Light Field Completion Using Focal Stack Propagation**. Undergraduate Thesis, Goldsmiths, University of London, 2015.

PRE-PRINTS

- Terence Broad and Mick Grierson, **Transforming the output of GANs by fine-tuning them with features from different datasets**. arXiv:1910.02411, 2019.

AWARDS AND HONOURS

- **Grand Prize** - ICCV Computer Vision Art Gallery, 2019.
- **Recognition of Outstanding Peer Review** - Leonardo (MIT Press), 2019.
- **Honourary Mention** - Prix Ars Electronica, 2017.
- **Best Masters Thesis** - Department of Computing, Goldsmiths, 2016.
- **Best Technical Work** - Goldsmiths Computing Innovation Awards, 2015.
- **Best Creative Work** - Goldsmiths Computing Innovation Awards, 2014.

PROFESSIONAL ACTIVITIES

- Art Papers Juror, ACM SIGGRAPH, 2021.
- Organising Committee, IGGI Conference, 2020.
- Ad hoc reviewer for Leonardo, 2019 - Present.
- Guest Judge, Science Fiction Hackathon, Goldsmiths, University of London, 2018.
- Reviewer for IEEE Transactions on Image Processing, 2017.

WORKSHOPS AND TUTORIALS

- Tutorial organizer, *A Deep Dive into Latent Space: Image Generation and Manipulation with StyleGAN2*, International Conference on Computational Creativity (ICCC) 2020.

INVITED TALKS

- *Active Divergence with Generative Deep Learning*, ICCV'21, ~~Mexico City~~ Online, 2021.
- *Artist talk*, the depot., London, 2021.
- *Network Bending: Expressive Manipulation of Deep Generative Models*, EvoStar, ~~Seville~~ Online, 2021.
- *Amplifying The Uncanny*, xCoAx, ~~Graz~~ Online, 2020.
- *What is the best approach to learning representations of aesthetics?*, IGGI Conference, University of York, 2019.
- *Autoencoding Blade Runner*, SIGGRAPH '17 Art Papers, Los Angeles Convention Center, 2017.
- *Autoencoding Blade Runner*, Cambridge Coding Academy, London, 2016.
- *Autoencoding Blade Runner*, RE WORK Deep Learning Summit, London, 2016.
- *Autoencoding Blade Runner*, CreativeAI Meetup #1, Google Campus London, 2016.

TEACHING EXPERIENCE

- Teaching Assistant for *Neural Networks*, Goldsmiths (UG), Spring Term 2021.
- Teaching Assistant for *Software Projects (Year 1)*, Goldsmiths (UG), Spring Term 2021.
- Teaching Assistant for *Introduction to Programming*, Goldsmiths (UG), Autumn Term 2020.
- Teaching Assistant for *Front End Web Development*, Goldsmiths (UG), Autumn Term 2020.
- Teaching Assistant for *Data and Machine Learning for Artist Practice*, Goldsmiths (PG), Spring Term 2020.
- Teaching Assistant for *Perception and Multimedia Computing: Graphics*, Goldsmiths (UG), Spring Term 2020.
- Teaching Assistant for *Data and Machine Learning for Creative Practice*, Goldsmiths (UG), Autumn Term 2019.
- Teaching Assistant for *Perception and Multimedia Computing*, Goldsmiths (UG), Autumn Term 2019.
- Teaching Assistant for *Creative Projects (Year 2)*, Goldsmiths (UG), Autumn Term 2019.

FUNDING AND SCHOLARSHIPS

- EPSRC Doctoral Studentship in Intelligent Games and Games Intelligence, 2018.
- Eliahou Dangoor Scholarship, 2012.

PROGRAMMING SKILLS

- **Languages:** Python, C, C++, C#, Javascript, Java, CUDA, LaTeX.
- **Technologies and Frameworks:** PyTorch, TensorFlow, OpenCV, OpenGL, Docker, NumPy, Sci-kit Learn.

SELECTED EXHIBITIONS

- *the depot_ digs*, the depot_, London, 2021.
- *NeurIPS AI Art Gallery*, ~~Vancouver Convention Center~~ Online, 2020.
- *thereafter.hiatus*, one gee in fog, Geneva, 2020.
- *CCI Inaugural Exhibition*, Camberwell College of Art, London, 2020.
- *NeurIPS AI Art Gallery*, Vancouver Convention Center, Vancouver, 2019.
- *ICCV Computer Vision Art Gallery*, COEX Convention Center, Seoul, 2019.
- *Science Fiction - A Journey into the Unknown*, Kunsthall, Rotterdam, 2019.
- *Into the Unknown*, Brandts Museum of Art & Visual Culture, Odense, 2018-19.
- *IAM*, Garage Museum of Contemporary Art, Moscow, 2018.
- *Counting The Waves*, Bard Hessel Museum, New York, 2018.
- *Science Fiction: A Journey into the Unknown*, Onassis Cultural Centre, Athens, 2017-18.
- *All these Moments will be lost in Time like Tears in Rain*, FMAC, Geneva, 2017.
- *Ars Electronica Festival*, Ars Electronica, Linz, 2017.
- *Into the Unknown: A Journey through Science Fiction*, The Barbican, London, 2017.
- *Why Future Still Needs Us: AI and Humanity*, Art Center Nabi, Seoul, 2016.
- *Robot Vision Party*, The Photographers Gallery, London, 2016.
- *Dreamlands: Immersive Cinema and Art, 1905–2016*, Whitney Museum of American Art, New York 2016-17.

SCREENINGS

- *Besides The Screen: Graphic Intelligences & Algorithmic Fictions*, Museum of Image and Sound, São Paulo, 2019.
- *Impakt Festival*, Impakt Center, Utrecht, 2018.
- *Its origins are indeterminate*, Whitechapel Gallery, London, 2018.
- *Ars Electronica Animation Festival*, Ars Electronica Center, Linz, 2017.
- *Dreamlands: Immersive Cinema and Art Film Program*, Whitney Museum of American Art, New York, 2017.
- *Pluk De Nacht*, Amsterdam, 2016.
- *PANDO@EnclaveLab*, Enclave Gallery, London, 2016.

COLLECTIONS

- *Blade Runner - Autoencoded*, The Contemporary Art Collection of the City of Geneva, Acquired 2018.

SELECTED PRESS

- **Cueva Gallery**, *Tweaking AI with Terence Broad*, 2020.
- **New Scientist**, *This science fiction trip is delightful, confusing – and risky*, 2017.
- **The Independent**, *Blade Runner, Autoencoded: The strange film that sums up our fears of AI and the future*, 2017.
- **Motherboard**, *The Neural Net That Recreated ‘Blade Runner’ Has the Movie Stuck in Its Memory*, 2017.
- **The New York Times**, *Diving Into Movie Palaces of the Mind at the Whitney*, 2016.
- **The Wall Street Journal**, *At the Whitney, a Different Take on the Moving Image*, 2016.
- **AQNB**, *The future is only an extension of our past: BB9 + beyond*, 2016.
- **CBC Radio**, *An Artificial Intelligence remade Blade Runner*, 2016.
- **Vox**, *A guy trained a machine to “watch” Blade Runner. Then things got seriously sci-fi.*, 2016.
- **TechCrunch**, *Oculus Hack Uses Cameras And Music To Mess With Your Perception.*, 2014.