

Tony Ng

 +447849244069 |  tonyngjichun@gmail.com |  [tony-ng-b88b1512b](#) |  [tonyngjichun](#) |  [user=P4S4lokAAAAJ](#)

WORK EXPERIENCE

| | | |
|------------------------------|---|---------------------|
| AI RESEARCH SCIENTIST | Meta London | AUG 2024 - Present |
| | <ul style="list-style-type: none">Image, video & audio diffusion models to <u>optimize ad performance</u> across Meta platforms.Data curation pipelines from pretraining (millions of images/videos) to post-training (thousands of high-quality data, using rewards models / human selection).Developed and implemented evaluation guidelines for assessing generation quality, covering aspects from defects to aesthetics, and successfully deployed these at scale with annotators.Boosted advertiser adoption by 40% on a \$1M+ daily revenue stream by training and deploying an image generation model. | |
| RESEARCH ENGINEER | Synthesia London | FEB 2023 - AUG 2024 |
| | <ul style="list-style-type: none">Controllable video diffusion models for <u>AI dubbing on avatars</u>.End-to-end research & development and deployment of <i>AvatarBuilder</i> (link to announcement) in Synthesia STUDIO for customising avatars with Gen AI.System design, engineering and deployment for AI Video Generation technology at scale. | |
| RESEARCH INTERN | Meta London | JUN 2022 - OCT 2022 |
| | <ul style="list-style-type: none">Led a research agenda in the <u>SceneScript project</u> on multimodal understanding between text and 3D, specifically using LLMs that generates scene elements via auto-regressive Transformers.Created an API for internal AR/VR research, including a demo of the scene generation pipeline. | |
| | Facebook Redmond, WA | MAY 2021 - NOV 2021 |
| | <ul style="list-style-type: none">Led the CVPR'22 research on privacy-preserving ML using adversarial learning at Reality Labs.Produced research code compatible with the Facebook (now Meta) infrastructure. | |
| TEACHING ASSISTANT | Imperial College London London | OCT 2018 - AUG 2023 |
| | <ul style="list-style-type: none"><u>Courses</u>: Machine Learning (Year 3), Pattern Recognition (Year 4), Deep Learning (Year 4)<u>Responsibilities</u>: Marking and giving feedback for exams & courseworks, giving tutorials. | |
| VISITING STUDENT | Scape Technologies London | JUN 2019 - DEC 2019 |
| | <ul style="list-style-type: none">Job-shadowed Dr. Vassileios Balntas and his research team.Assisted the integration of image retrieval modules into Scape's localization pipeline. | |
| SUMMER INTERN | Rolls-Royce plc Derby, UK | JUN 2016 - SEP 2016 |
| | <ul style="list-style-type: none">Set up and managed a project team of 7 specialists to resolve a disruption issue within the supply chain, with impact of approximately £120K and duration of 10 months.Analysed a spreadsheet with over 650,000 entries to assess replacement risks and costs. | |

EDUCATION

| | | |
|-------------|---|---------------------|
| PhD | Electrical and Electronic Engineering Imperial College London | SEP 2018 - AUG 2023 |
| | <ul style="list-style-type: none"><u>Research Topic</u>: Visual localization for AR/VR using deep-learning and geometry.<u>Supervisor</u>: Prof. Krystian Mikolajczyk, <u>Co-supervisor</u>: Dr. Vassileios Balntas.<u>Scholarship</u>: Departmental Scholarship for Overseas PhD Candidates. | |
| MEng | Aeronautical Engineering Imperial College London | OCT 2014 - JUN 2018 |
| | <ul style="list-style-type: none"><u>Thesis</u>: <i>"Prediction Model for Gravity Currents."</i> Grade: 80/100.<u>Classification</u>: First Class Honours (1:1), Average Score 78%.<u>Awards</u>: Dean's List 2015 & 2016, Aeronautics Scholars. | |

PUBLICATIONS

2022 T. Ng, H.J. Kim, V. Lee, D. DeTone, T. Yang, T. Shen, E. Ilg, V. Balntas, K. Mikolajczyk, C. Sweeney. **NinjaDesc: Content-Concealing Visual Descriptors via Adversarial Learning**. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022.

T. Ng, A. Lopez-Rodriguez, V. Balntas, K. Mikolajczyk. **OoD-Pose: Camera Pose Regression from Out-of-Distribution Synthetic Views**. In *International Conference on 3D Vision (3DV)*, 2022.

2020 T. Ng, V. Balntas, Y. Tian, K. Mikolajczyk. **SOLAR: Second-Order Loss and Attention for Image Retrieval**. In *Proceedings of the 16th European Conference on Computer Vision (ECCV)*, 2020.

Y. Tian, A. Barroso-Laguna, T. Ng, V. Balntas, K. Mikolajczyk. **HyNet: Learning Local Descriptor with Hybrid Similarity Measure and Triplet Loss**. In *Proceedings of Advances in Neural Information Processing Systems (NeurIPS)*, 2020.

Y. Tian, V. Balntas, T. Ng, A. Barroso-Laguna, Y. Demiris, K. Mikolajczyk. **D2D: Keypoint Extraction with Describe to Detect Approach**. In *Asian Conference on Computer Vision*, 2020.

CONFERENCES

REVIEWER **CVPR 2023: Outstanding Reviewer**.
CVPR2025, ICLR 2022, CVPR 2022 & ECCV 2022.
NeurIPS 2021 & 2022: Outstanding Reviewer Award: awarded to the top 8% of reviewers in 2021.

ECCV **Author & Reviewer** AUG 2020
2020 · As a first author, prepared short and long videos for two poster sessions.
· Paper and interview featured in ECCV daily.

CVPR **Invited Speaker at Image Matching Challenge 2020** JUN 2020
2020 · Lead presenter of a top entry at the challenge in Image Matching: Local Features and Beyond.

LEADERSHIP & VOLUNTEERING

LEADER, SINGER, ARRANGER **The Mockingbird** | London OCT 2014 - MAR 2017
· A London-based Acapella group, founded by students / music enthusiasts from Hong Kong.
· We held annual concerts in March every year with attendances in the hundreds.
· I was mainly a bass singer, but also a song-arranger, choreographer, stage-designer, concert organiser, as well as being one of the leading figures in my third and final year with the group.

Associate **Imperial College Consultancy Society** | London OCT 2016 - MAY 2017
· Hosting and preparing materials for weekly case-study sessions with the Case-Study Group.

SKILLS & INTERESTS

| | | | |
|------------------|---|---|--|
| COMPUTING | High Proficiency <ul style="list-style-type: none">· Python, PyTorch· Docker, k8s / kubeflow | Medium Proficiency <ul style="list-style-type: none">· CI/CD (e.g. gha, terraform)· C++ | Basic Proficiency <ul style="list-style-type: none">· JavaScript· Unix |
| LANGUAGE | Native / Fluent <ul style="list-style-type: none">· English· Cantonese, Mandarin | Conversational <ul style="list-style-type: none">· Korean | Basic <ul style="list-style-type: none">· German (B1+)· Japanese |
| INTERESTS | <ul style="list-style-type: none">· Singing, Travelling· Lifting weights, Tennis· Formula 1· Age of Empires II | | |