Tony Ng

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EDUCATION

PhD   **Electrical and Electronic Engineering** | Imperial College London   SEP 2018 - Present
- · <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
- · <u>Thesis</u>: *"Prediction Model for Gravity Currents."* 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.

WORK EXPERIENCE

RESEARCH INTERN (AI)   **Meta** | London   JUN 2022 - OCT 2022
- · Led a research project on cross-modal understanding across natural language and geometric data using language models in Reality Labs Research.

RESEARCH INTERN   **Facebook** | Redmond, WA   MAY 2021 - NOV 2021
- · Led the CVPR 2022 research on privacy-preserving visual localization in Reality Labs Research.
- · Produced research code compatible with the Facebook (now Meta) infrastructure.

TEACHING ASSISTANT   **Imperial College London** | London   OCT 2018 - Present
- · <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
- · Job-shadowed Dr. Vassileios Balntas and his research team.
- · Assisted the integration of image retrieval modules into Scape's localization pipeline.

SUMMER INTERN   **Securities and Futures Commission** | Hong Kong   JUL 2017 - SEP 2017
- · Data analysis on social media sentiments about the Commission's regulatory efforts.
- · Assisted the filing and initial investigation of several Boiler Room cases.

| **SUMMER INTERN** | **Rolls-Royce plc** | Derby, UK | JUN 2016 - SEP 2016 |

· 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.

PRODUCT PROMOTER **Cheil Pengtai** | Hong Kong   AUG 2014 & AUG 2015
· Promoted Samsung Products at the 2014 & 2015 HK Computers and Communication Festivals.

CONFERENCES

REVIEWER **ICLR 2022, CVPR 2022 & ECCV 2022**

NeurIPS 2021 & 2022

· [Outstanding Reviewer Award](#): awarded to the top 8% of reviewers in 2021.

ECCV 2020 **Author & Reviewer**   AUG 2020
· Attended the ECCV 2020 online conference as a first author, prepared both [short](#) and [long](#) videos as well as hosting two poster sessions via Zoom.
· Paper and interview featured in [ECCV daily](#).

CVPR 2020 **Invited Speaker at Image Matching Challenge 2020**   JUN 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
· [The Mockingbird](#) is a London-based collegiate-style Acapella group, founded by a group of university students / music enthusiasts from Hong Kong in 2008.
· We held annual concerts in March every year with attendances in the hundreds, also appearing as guest performers in other university societies' events.
· 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.

ASSOCIATE **UNICEF on Campus, Imperial College London** | London   OCT 2015 - MAY 2016
· Part of the Publicity Team which organised the Charity Concert.

CHAIRMAN **Senior Mixed Voice Choir, St. Paul's Co-educational College** | Hong Kong   2012 - 2013
· Led a choir of 80 members in rehearsals and competing in School Music Festivals.

SKILLS & INTERESTS

COMPUTING	**High Proficiency**	**Medium Proficiency**	**Basic Proficiency**
	· Python	· C++	· JavaScript
	· PyTorch	· MATLAB	· Tensorflow
LANGUAGE	**Native / Fluent**	**Conversational**	**Basic**
	· English	· Korean	· German (B1+)
	· Cantonese, Mandarin		· Japanese

INTERESTS
· Singing, especially in an Acapella
· Lifting weights, Tennis
· Formula 1
· Age of Empires II