Tony Ng

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EDUCATION

PHD **Electrical and Electronic Engineering** | Imperial College London   SEP 2018 - Present
· Research Topic: Visual localization for AR/VR using deep-learning and geometry.
· Supervisor: Dr. Krystian Mikolajczyk, Co-supervisor: Dr. Vassileios Balntas.
· Scholarship: Departmental Scholarship for Overseas PhD Candidates.

MENG **Aeronautical Engineering** | Imperial College London   OCT 2014 - JUN 2018
· Thesis: *"Prediction Model for Gravity Currents."* Grade: 80/100.
· Classification: First Class Honours (1:1), Average Score 78%.
· Awards: Dean's List 2015 & 2016, Aeronautics Scholars.

PUBLICATIONS

2021 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.** arXiv preprint arXiv:2112.12785.

T. Ng, A. Lopez-Rodriguez, V. Balntas, K. Mikolajczyk. **Reassessing the Limitations of CNN Methods for Camera Pose Regression.** arXiv preprint arXiv:2108.07260.

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*, 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 **Meta / Facebook** | London, Redmond WA   MAY 2021 - NOV 2021
· Leading an AR/VR research project in Reality Labs Research with a publication as the output.
· Producing research code compatible with the Facebook (now Meta) infrastructure.

TEACHING ASSISTANT **Imperial College London** | London   OCT 2018 - Present
· Courses: Machine Learning (Year 3), Pattern Recognition (Year 4), Deep Learning (Year 4)
· Responsibilities: 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.
· Brainstormed ideas, conducted experiments and wrote the paper for ECCV 2020 publication.
· 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 funding 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 |

· Promoting Samsung Products at the 2014 & 2015 HK Computers and Communication Festivals.

CONFERENCES

NEURIPS 2021 · **Reviewer** · DEC 2021
· [Outstanding Reviewer Award](): awarded to the top 8% of reviewers.

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]().
· Reviewer under the supervision of Dr. Krystian Mikolajczyk.

CVPR 2020 · **Invited Speaker at Image Matching Challenge 2020** · JUN 2020
· One of the top entries at the Image Matching Challenge hosted in the CVPR 2020 workshop on [Image Matching: Local Features and Beyond]().
· Lead presenter of the [invited talk]().

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.
· My primary role was a bass singer. However, I also took on multiple roles (as did other members) such as song-arranger, choreographer, stage-designer, concert organizer, 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 organized 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
· Video editing & 3D rendering ([link to the video]() I made for a 3rd year undergrad group project)
· Lifting weights, Tennis
· Formula 1
· Age of Empires II