

# KAM WOH NG

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## EDUCATION

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### University of Surrey (Guildford, England)

October 2021 - Present

Vision, Speech and Signal Processing PhD

- ◇ Under the supervision of Prof. Tao Xiang and Prof. Yi-Zhe Song.
- ◇ Two works on deep hashing were accepted in NeurIPS 2021 and BMVC 2023 respectively.
- ◇ Two works on fine-grained representation are under reviewing.
- ◇ Completed a work on AIGC [Link].

### University of Malaya (Kuala Lumpur, Malaysia)

August 2015 - January 2019

Bachelor of Computer Science (Artificial Intelligence)

CGPA: 3.89/4.00

- ◇ Final year project was accepted in AAAI-19 workshop.

## TECHNICAL EXPERTISE

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<b>Programming &amp; Scripting</b>	Python, Java, C/C++/C#, Bash, HTML5/CSS3/Javascript
<b>Development Framework</b>	ReactJS, Flask, Unity3D
<b>Deep Learning Framework</b>	PyTorch, Tensorflow

## WORKING EXPERIENCES

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### AI Department

Nov 2019 - Mar 2021

#### WeBank, Shenzhen, China

AI Research Engineer

- ◇ Research focus on security in Federated Learning (such as privacy protection, adversarial defense).
- ◇ Two works on protecting Intellectual Property Right of DNN were accepted in CVPR 2021 and TPAMI 2021.
- ◇ A work on deep hashing was accepted in IJCAI 2020.
- ◇ Contributed in the workshops of IEEE BigData 2020 and AAAI 2021.
- ◇ Contributed in editing a Springer book – Federated Learning.

### Center of Image and Signal Processing

Feb 2019 - Oct 2019

#### University of Malaya, Kuala Lumpur, Malaysia

Research Assistant

- ◇ Under the supervision of Professor Dr. Chan Chee Seng (UM) and Dr. Lixin Fan (WeBank).
- ◇ Research focus on AI security.
- ◇ A work on protecting Intellectual Property Right of DNN was accepted in NeurIPS 2019.

### MoneyLion Malaysia Sdn Bhd

Mar 2019 - Aug 2019

#### Kuala Lumpur, Malaysia

AI Researcher (Part-time)

- ◇ Research focus on analyzing transaction using interpretable machine learning .

### Xendity Pte Ltd

Sep 2018 - Feb 2019

#### Kuala Lumpur, Malaysia

AI Engineer

- ◇ Responsible to build and improve OCR technology for e-KYC system.

### Center of Image and Signal Processing

Jul 2016 - Aug 2016

#### University of Malaya, Kuala Lumpur, Malaysia

Research Intern

- ◇ Under supervision of Dr. Chan Chee Seng.
- ◇ Built a deep learning based Malaysia car plate recognition system.

## TEACHING EXPERIENCE

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**Centre for Vision, Speech and Signal Processing**  
**University of Surrey, Guildford, United Kingdom**  
*Teaching Assistant*

*Feb 2023 - Dec 2023*

- ◇ EEEM071 Advanced Topics in Computer Vision and Deep Learning
- ◇ EEEM066 Fundamental of Machine Learning

**Faculty of Computer Science and Information Technology**  
**University of Malaya, Kuala Lumpur, Malaysia**  
*Teaching Assistant*

*Sep 2016 - Dec 2018*

- ◇ WIX1002 Fundamentals of Programming
- ◇ WIA1002 Data Structures

## ACHIEVEMENT HIGHLIGHTS

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### AI RELATED

eBay eProduct Visual Search Challenge - FGVC9 (CVPR 2022)	Second Place	<a href="#">[Link]</a>
IKCEST Bigdata Challenge 2019	36th Place	<a href="#">[Link]</a>
Grab AI for S.E.A. Challenge	Top 10	<a href="#">[Link]</a>

### COMPETITIVE PROGRAMMING

E-Genting Programming Competition 2018	First Prize	<a href="#">[Link]</a>
ACM-ICPC Malaysia al-Khawarizmi National Programming Contest 2018	Second Prize	<a href="#">[Link]</a>
Prosolve National Programming Competition 2018	Third Prize	
UNICODE Programming Contest 2017	Second Runner-Up	
ATURKREATIF'17 Open Programming Competition	First Runner-Up	
E-Genting Programming Competition 2017	Second Prize	<a href="#">[Link]</a>

### OTHERS

KPMG Security Challenge 2018 Malaysia	4th Place	
HEREMYHACK Virtual Hackathon 2018	Second Prize	<a href="#">[Link]</a>
Park of the Future Hackathon 2018	Open Category Winner	<a href="#">[Link]</a>
F-Secure Intervarsity Cyber Security Competition 2017	Top 5	<a href="#">[Link]</a>
Sunway CityHack 2017	First Prize	
Unlock Asia AI Robot & Big Data Hackathon 2016	First Prize	

## AWARDS

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### Dean's Special Award

*May 2019*

*Faculty of Computer Science and Information Technology, University of Malaya*  
Awarded for my exceptional co-curricular and academic achievements.

### Excellent Academic Project Award

*May 2019*

*Faculty of Computer Science and Information Technology, University of Malaya*  
Selected and awarded as the best academic project in the department. Work is accepted in AAAI-19 Workshop on Network Interpretability for Deep Learning.

## ADDITIONAL EXPERIENCE

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1. Developed an open source image retrieval project – Fast Image Retrieval (FIRE) which implemented most of the major binary hashing methods. [\[GitHub\]](#)
2. Springer book: "Federated Learning: Privacy and Incentive" organizing committee. [\[Link\]](#)
3. AAAI 2021 workshop: "Towards Robust, Secure and Efficient Machine Learning" organizing committee. [\[Link\]](#)
4. Contributed for development of CosMos, a system to monitor COVID-19 patients in Malaysia. [\[News\]](#)
5. Experienced in OCR engine development.

## PUBLICATIONS/PAPERS

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\* indicates equal contributions.

1. **Kam Woh Ng**, Xiatian Zhu, Yi-Zhe Song, Tao Xiang. **DreamCreature: Crafting Photorealistic Virtual Creatures from Imagination**. arXiv 2311.15477, 2023. [Link to Paper]
2. **(Oral) Kam Woh Ng**, Xiatian Zhu, Jiun Tian Hoe, Chee Seng Chan, Tianyu Zhang, Yi-Zhe Song, Tao Xiang. **Unsupervised Hashing with Similarity Distribution Calibration**. In 34th British Machine Vision Conference (BMVC), 2023. [Link to Paper]
3. Jing Chong Beh, **Kam Woh Ng**, Jie Long Kew, Che-Tsung Lin, Chee Seng Chan, Shang-Hong Lai, Christopher Zach. **CyEDA: Cycle-Object Edge Consistency Domain Adaptation**. In IEEE International Conference on Image Processing (ICIP), 2022. [Link to Paper]
4. Jiun Tian Hoe\*, **Kam Woh Ng\***, Tianyu Zhang, Chee Seng Chan, Yi-Zhe Song, Tao Xiang. **One Loss for All: Deep Hashing with a Single Cosine Similarity based Learning Objective**. In 35th Conference on Neural Information Processing Systems (NeurIPS), 2021. [Link to Paper]
5. Lixin Fan\*, **Kam Woh Ng\***, Chee Seng Chan, Qiang Yang. **DeepIP: Deep Neural Network Intellectual Property Protection with Passports**. In IEEE Transactions on Pattern Analysis and Machine Intelligence, 2021. [Link to Paper]
6. Ding Sheng Ong, Chee Seng Chan, **Kam Woh Ng**, Lixin Fan, Qiang Yang. **Protecting Intellectual Property of Generative Adversarial Networks from Ambiguity Attack**. In Conference on Computer Vision and Pattern Recognition, 2021. [Link to Paper]
7. Lixin Fan\*, **Kam Woh Ng\***, Ce Ju\*, Tianyu Zhang, Chang Liu, Chee Seng Chan, Qiang Yang. **Rethinking Privacy Preserving Deep Learning: How to Evaluate and Thwart Privacy Attacks**. Federated Learning: Privacy and Incentive, 2020. [Link to Paper]
8. Lixin Fan\*, **Kam Woh Ng\***, Ce Ju, Tianyu Zhang and Chee Seng Chan. **Deep Polarized Network for Supervised Learning of Accurate Binary Hashing Codes**. In the 29th International Joint Conference on Artificial Intelligence (IJCAI), 2020. [Link to Paper]
9. Lixin Fan\*, **Kam Woh Ng\***, Chee Seng Chan. **Rethinking deep neural network ownership verification: Embedding passports to defeat ambiguity attacks**. In 33th Conference on Neural Information Processing Systems (NeurIPS), 2019. [Link to Paper]
10. **Kam Woh Ng**, Lixin Fan, Chee Seng Chan. **A Universal Logic Operator for Interpretable Deep Convolution Networks**. In AAAI-19 Workshop on Network Interpretability for Deep Learning. [Link to Paper]

## PATENTS

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1. CN Patent CN111,626,408 A. **Hash coding method, device and equipment and readable storage medium**.
2. CN Patent CN111,652,356 A. **Neural network model protection method, device, equipment and readable storage medium**.
3. CN Patent CN111,783,956 A. **Neural network model protection method, device, equipment and readable storage medium**.