

SAROT BUSALA

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EDUCATION

Chulalongkorn University, Bangkok Thailand

Candidate for M.Eng. in Computer Engineering

B.Eng. in Computer Engineering

August 2019 - Present

June 2015 - June 2019

ACHIEVEMENTS

17th place (from more than 2,000 teams worldwide), IEEEExtreme 11.0	2017 October
25th place (from more than 2,000 teams worldwide), IEEEExtreme 10.0	2016 October
11th place, ACM-ICPC Asia Yangon Regional Contest	2017 December
14th place (2nd of Thailand), ACM-ICPC Asia Bangkok Regional Contest	2016 September
27th place, ACM-ICPC Asia Phuket Regional Contest	2015 September
Silver Medalist, 10th Thailand Olympiad in Informatics	2014 May

PUBLICATIONS

- Busala, S., & Sirivichayakul, T., & Iida, H., & Khalid, M., & Yusof, K. (2018). Single Conspiracy Number analysis in Checkers. 11th International Conference on Agents and Artificial Intelligence (ICAART). (2019). **Presented on 19-21 Feb. 2019 (Nominated Best Poster)**

EXPERIENCE

Master's Thesis, Facial Geometry Acquisition by Lightings

2019 Aug. - Present

- Estimated facial surface normal and depth map from images under controlled lighting conditions.
- Estimated high-detail geometry with U-Net and Generative adversarial network in according to high-detail mesh reconstructed from Structure from motion and Shape from shading approaches.
- Studied on Facial geometry acquisition within setup environment. (Working with Lumio3D).

Contract Remote Engineer, Nysus Ltd., AI startup based in Hong Kong

2019 Jul. - Present

- Implemented core library and proof-of-concept experiment.
- Designed and implement concurrent code for graph algorithms.
- Worked on Probabilistic graphical models' applications in industrial problems.

Unity3D Game Developer Intern, Runster, Online Exercise Game

2019 Jan. - 2019 Jul.

- Designed and implemented self-adaptive game AI with genetic algorithm.
- Designed an approach for translating control signals from mobile phone sensors into player control.

Undergraduate Senior Project, Surface Normal on Diffuse Sphere

2018 Aug. - 2019 Jun.

- Estimated surface normal of a spherical diffuse object from images by Convolutional Neural Network and Generative Adversarial Network.
- Designed a data collection process and implemented code to process raw data in consideration of image distortion, scene lighting and assumed lambertian property of the captured sphere.

Research Student, Japan Advanced Institute of Science and Technology

2018 May - 2018 Jul.

- Researched, implemented and experimented Minimax tree search with Alpha-beta pruning, Proof-number search, and Conspiracy number search.
- Experimented on methods and cost functions to merge classical search algorithm with machine learning based approach (Single Conspiracy Number).

Part-time Data Engineer, Donuts Bangkok Co., Ltd.

2018 Jan. - 2018 Apr.

- Implemented content-based recommender system for website contents (sistacafe.com).

Individual Study Student, CU Game Laboratory

2017 Aug. - 2017 Dec.

- Improved RTS game AI by Dynamic scripting (Reinforcement online learning technique).
- Implemented genetic algorithm in C++, both incremental and generational model.
- Analyzed results, used consecutive win rates to assess performance and designed states appropriated for dynamic scripting, allowed learning processes to reach boundaries faster.

Founder of Thailand competitive programming platform [Codecube.in.th](https://codecube.in.th) **2015 Jun. - Present**

- Managed online contest platform, elo-rating, back-end PHP integrated with MySQL.
- Organised 90% of competitive programming contests on the site, set problems, generated test cases, cross-checked solutions, created and supervised editorials, supervised problem setters.

EXTRACURRICULAR ACTIVITIES

Teacher Assistant, Algorithm Design Undergraduate Course, Chulalongkorn University 2019/2

Graded exam, prepared quiz problems' solutions and testcases, provided office hours.

Teacher Assistant, Data Structure Undergraduate Course, Chulalongkorn University **2019/1**

Graded exam, prepared quiz problems' solutions and testcases, provided office hours.

Valedictorian, Computer Engineering, Chulalongkorn University Class of 2019

Computer Olympiad Tutor, Triam Udom Suksa School Computer Club **2013 - 2018**

Prepared lectures on computer olympiad(IOI) topics including splay trees, persistent segment tree, etc.

Computer Engineering Chulalongkorn University Hello CP World Day, 2016 August

Leader of organising team who introduce freshmen to Computer Engineering department including details about computer engineering program, class, culture, club.

TECHNICAL SKILLS

Technical Skills C++, Python, C#, Java, Git, Linux, Unity3D

Interests	Inverse Rendering, Game Development, Realtime Physics Simulation
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, Computer Graphics, Computer Vision, Artificial Intelligence

Languages Thai (Native), English (Advanced, TOEFL iBT 89), Japanese (JLPT N4)