Art Subpa-asa

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Professional summary

Software engineer and computer vision researcher with 10+ years of experience designing algorithms and building imaging systems. Published at ICCV, CVPR, and ECCV, with expertise in computational photography, novel sensors, and medical imaging. Skilled at prototyping advanced methods, integrating hardware and software, and translating cutting-edge research into practical solutions. Known for innovation, problem-solving, and mentoring, with a strong record of collaboration across global research and engineering teams.

Skills

- **Programming & Development**
  Python, Java, Java EE, C#, Matlab, HTML/CSS/JavaScript; applied in both enterprise systems and research prototypes
- **Computer Vision & Imaging**
  Computational photography, physics-based computer vision, spectral imaging, image acquisition, event-based imaging, medical imaging
- **Machine Learning & AI**
  Deep learning (CNNs, Transformers, autoencoders), optimization, image reconstruction (denoising, deblurring, super-resolution)
- **Hardware & Software Integration**
  Sensor control, device interfacing, prototype implementation for cutting-edge technologies
- **Languages**
  Thai (Native), English (Fluent), Japanese (Basic)
- **Interests**
  Graphic design, photography

Professional experience

National Institute of Informatics; ***Tokyo, Japan***
Project Researcher / Research Assistant *2014 – 2021, 2024 – 2025*

- ***Algorithm & Prototype Development***
  - *Developed algorithms and prototypes for active lighting, medical imaging, and alternative cameras (e.g., event-based sensors).*
  - *Bridged hardware and software layers, implementing image-processing pipelines while controlling sensors and devices.*
  - *Built experimental platforms integrating hardware-level control with computational algorithms.*
- ***Publications & Research Impact***
  - *Published at ICCV, CVPR, and ECCV, contributing to high-impact research in computational photography and sensor technologies.*
  - *Designed visualizations and infographics to communicate complex technical concepts.*
- ***Project & Multinational Team Management***
  - *Led multi-domain projects, coordinating across hardware engineers, software developers, and international collaborators.*
  - *Mentored students from top universities, guiding them in algorithm development, experimental design, and research methodology.*
  - *Delivered experimental results and functional prototypes on schedule while managing multiple projects.*

The Stock Exchange of Thailand; ***Bangkok, Thailand***
Application Engineer *2011 – 2014*

- **System Architecture & Development**
  - Re-platformed the SET online trading system (“Streaming”), enabling new products such as options and derivative warrants.
  - Designed and implemented enterprise-scale systems to handle increased trading volumes and performance demands.
- **Collaboration & Cross-Team Facilitation**
  - Coordinated between coding, marketing, and front- and back-office teams, resolving conflicts and aligning requirements.
- **Project Execution & Problem Solving**
  - Delivered customized product features to meet client requirements, enhancing system functionality and efficiency.
  - Managed project timelines, ensuring on-time launch and smooth deployment.

Education

- **Tokyo Institute of Technology; *Tokyo, Japan***
  Doctor of Philosophy, Information Processing *2015 – 2019*
  Thesis Title: Layer Separation in Real Scene, supervised by Dr. Imari Sato
- **Chulalongkorn University; *Bangkok, Thailand***
  Master of Engineering, Computer Engineering: GPA 4.0 *2009 – 2011*
- **Chulalongkorn University; *Bangkok, Thailand***
  Bachelor of Engineering, Computer Engineering: GPA 3.4 Second Class Honor *2005 – 2009*

Conferences participation / poster presentation

- IEEE/CVF Conference on Computer Vision and Pattern Recognition, USA — June 2021
- European Conference on Computer Vision, *Munich, Germany* — September 2018
- International Conference on Computer Vision, *Venice, Italy* — October 2017
- IEEE International Conference on Image Processing, *Beijing, China* — September 2017
- Asian Conference on Computer Vision, *Taipei, Taiwan* — November 2016

Highlight publications

Computational photography & physics-based computer vision

- A microfacet-based model for photometric stereo with general isotropic reflectance
  [TPAMI] Lixiong Chen, Yinqiang Zheng, Boxin Shi, **Art Subpa-asa**, Imari Sato
- Variable Ring Light Imaging: Capturing Transient Subsurface Scattering with An Ordinary Camera
  [ECCV2018] Ko Nishino, **Art Subpa-asa**, Yuta Asano, Mihoko Shimano, Imari Sato
- A Microfacet-Based Reflectance Model for Photometric Stereo with Highly Specular Surfaces
  [ICCV2017] Lixiong Chen, Yinqiang Zheng, Boxin Shi, **Art Subpa-asa**, Imari Sato
- Light Transport Component Decomposition using Multi-frequency Illumination
  [ICIP2017] **Art Subpa-asa**, Yinqiang Zheng, Ono Nobutaka, and Imari Sato
- Direct and Global Component Separation from a Single Image Using Basis Representation
  [ACCV2016] **Art Subpa-asa**, Ying Fu, Yinqiang Zheng, Toshiyuki Amano, and Imari Sato

Learning-based imaging methods

- A data-driven approach for direct and global component separation from a single image
  [ACCV2018] Shijie Nie, Lin Gu, **Art Subpa-asa**, Ilyes Kacher, Ko Nishino, Imari Sato
- From RGB to Spectrum for Natural Scenes via Manifold-Based Mapping
  [ICCV2017] Yan Jia, Yinqiang Zheng, Lin Gu, **Art Subpa-asa**, Antony Lam, Yoichi Sato, Imari Sato
- Spectral Imaging Using Basis Lights
  [BMVC2013] Antony Lam, **Art Subpa-asa**, Imari Sato, Takahiro Okabe, Yoichi Sato

Novel sensor & unconventional imaging

- Active Hyperspectral Imaging Using an Event Camera (Highlight paper)
  [CVPR2025] Bohan Yu, Jinxiu Liang, Zhuofeng Wang, Bin Fan, **Art Subpa-asa**, Boxin Shi, Imari Sato
- Polarimetric Three-View Geometry
  [ECCV2018] Lixiong Chen, Yinqiang Zheng, **Art Subpa-asa**, Imari Sato

Medical imaging

- Reliability-Aware Restoration Framework for 4D Spectral Photoacoustic Data
  [TPAMI] Weihang Liao, **Art Subpa-asa**, Yuta Asano, Yinqiang Zheng, Hiroki Kajita, Nobuaki Imanishi, Takayuki Yagi, Sadakazu Aiso, Kazuo Kishi, Imari Sato
- 4D hyperspectral photoacoustic data restoration with reliability analysis
  [CVPR2021] Weihang Liao, **Art Subpa-asa**, Yinqiang Zheng, Imari Sato