Puntawat Ponglertnapakorn

PhD Candidate at Vidyasirimedhi Institute of Science and Technology (VISTEC)

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Education

Aug 2019 - Present — **PhD Candidate in Information Science and Technology**
Vidyasirimedhi Institute of Science and Technology (VISTEC)
Rayong, Thailand
Advisor: Professor Supasorn Suwajanakorn

Aug 2014 - May 2018 — **BSc in Computer Engineering (Second Class Honors)**
Prince of Songkhla University
Songkhla, Thailand

Experience

Nov 2018 - Jul 2019 — **Research Assistant at Brain Lab**
Vidyasirimedhi Institute of Science and Technology
Rayong, Thailand

- Worked in the Sleep and MUSEC team
- Collected human biosignal data (e.g., ECG, EEG, and PPG).
- Developed a post-calibration algorithm to improve heart rate estimation on consumer grade wrist-worn devices.

Aug 2016 - Nov 2016 — **Student Internship at NETPIE**
Thailand's National Electronics and Computer Technology Center (NECTEC)
Thailand Science Park, Pathum Thani, Thailand

- Developed checksum and optimized memory usage in Microgear library for ESP8266.
- Workshop's instructor at EGAT and NECTEC.

Research Interest

Broad interests: Computer Vision, Machine Learning, Deep Learning, Generative Modeling
Specific interests: Human Motion Generation for Football Players, Computer Vision for Sports Virtual Replay and Reconstruction, Face Relighting

Publications

1. **Where Is The Ball: 3D Ball Trajectory Estimation From 2D Monocular Tracking**
   11th CVSPORTS at CVPR 2025 · Project Page · arXiv
   "An approach for 3D ball trajectory estimation from a 2D tracking sequence that generalizes to real-world trajectories, despite being trained solely on simulation.**"**
   P. Ponglertnapakorn, S. Suwajanakorn
   With support and collaboration from Dr.Konstantinos Rematas
2. **DiFaReli++: Diffusion Face Relighting with Consistent Cast Shadows**
   Arxiv preprint 2025 · Project Page · arXiv
   "An extension to DiFaReli that improves cast shadows by enabling removal or alteration of hard cast shadows with temporal consistency, and achieves faster relighting in a single network pass.**"**
   P. Ponglertnapakorn, N. Tritrong, S. Suwajanakorn.
3. **DiFaReli: Diffusion Face Relighting**
   ICCV 2023 · Project Page · arXiv
   "A novel approach to single-view face relighting in the wild leveraging a conditional diffusion implicit model (DDIM) without any need for light stage data, multi-view images, or lighting ground truth.**"**
   P. Ponglertnapakorn, N. Tritrong, S. Suwajanakorn.

4. **Revealing Preference in Popular Music Through Familiarity and Brain Response**
   IEEE Sensor Journal 2021 · **Dataset** · **arXiv**
   "A music preference study, factorized by familiarity score and brain responses (EEG) while listening to music with and without lyrics.**"**
   S. Sangnark**,** P. Autthasan, **P. Ponglertnapakorn**, Phudit Chalekarn, T. Sudhawiyangkul, M. Trakulruangroj, S. Songsermsawad, R. Assabumrungrat, S. Amplod, K. Ounjai, T. Wilaiprasitporn
5. **Improving Heart Rate Estimation on Consumer Grade Wrist-Worn Device Using Post-Calibration Approach, IEEE Sensor Journal 2020** · **arXiv** · **IEEE**
   "A method to improve heart rate estimation from various consumer-grade wrist-worn devices toward medical-grade accuracy."
   T. Choksatchawathi, **P. Ponglertnapakorn**, A. Ditthapron, P. Leelaarporn, T. Wisutthisen, T. Wilaiprasitporn

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Awards and Scholarships

1. Ph.D. fully-funded scholarship issued by Siam Commercial Bank Public Company Limited (SCB) and PTT Public Company Limited. (2019)
2. First place in Thailand Southern Programming Contest (2016)
