

# Curriculum Vitae

Dr. Pruek Vanna-iampikul

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## 1. Career Highlights

### 1.1 Teaching

1. Undergrad teaching: “Integrated Circuit Design by FPGA and VHDL” at Burapha University
  - Elective major class for senior year in Embedded System and Electronic Communication Prog.
  - Average teaching rating: 4.78 out of 5.0
2. Undergrad teaching: “Computer Programming for Engineering” at Burapha University
  - Required class for freshmen at Engineering Department (Multiple Majors)
  - Average teaching rating: 4.68 out of 5.0
3. Undergrad teaching: “Fundamental of Electrical Engineering Laboratory” at Burapha University
  - Required class for freshmen at Engineering Department (Multiple Majors)
  - Average teaching rating: 4.6 out of 5.0

### 1.2 Positions and Recognition

1. Lecturer, Department of Electrical Engineering, Burapha University (2024 - present)

## 2. Earned Degrees

1. B.Eng. (Computer Engineering) King Mongkut Institute of Technology Ladkrabang 2012
2. M.Eng. (Microelectronics and Embedded Systems) Asian Institute of technology 2017
3. Ph.D. (Electrical and Computer Engineering) Georgia Institute of Technology 2024

## 3. Employment

1. Embedded System Software Developer, AKCP Co, Ltd (June 2012 - April 2015)
2. Research associate, AI Center Asian Institute of Technology (June 2017 - July 2019)
3. Graduate Research Assistant, Georgia Tech CAD Laboratory (August 2019 - May 2024)
4. Technical Intern, Electronic Design Automation Group (EDAG), Synopsys Inc. (June 2023 - Dec 2023)
5. Lecturer, Department of Electrical Engineering, Burapha University (June 2024 - present)

## 4. Honors and Awards

1. Second Place in 14th National Software Contest 2012 (NSC2012) in Linux Application on topic “IPSC Training System” At Impact Arena Mueng Thong Thani
2. Received Senior project grants around 100,000 THB from Engineering Department on topic IPSC Training System in 2011
3. ERASMUS+ recipient for Exchange Master Program at Universidade de Minho, Portugal (September 2016 - March 2017)
4. Royal Thai Government Scholarship recipient for Postgraduate program (Fully funded scholarship) 2018

## 5. Refereed Publications

### 5.1 Refereed Journal Publications

1. Zhu, Lingjun, Arjun Chaudhuri, Sanmitra Banerjee, Gauthaman Murali, Pruek Vanna-lampikul, Krishnendu Chakrabarty, and Sung Kyu Lim. "Design automation and test solutions for monolithic 3D ICs." *ACM Journal on Emerging Technologies in Computing Systems (JETC)* 18, no. 1 (2021): 1-49.
2. Vanna-lampikul, Pruek, Chengjia Shao, Yi-Chen Lu, Sai Pentapati, Yun Heo, Jae-Seung Choi, and Sung Kyu Lim. "Snap-3D: A constrained placement-driven physical design methodology for high performance 3-D ICs." *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems* 42, no. 7 (2022): 2331-2335.
3. Vetter, J.S., Date, P., Fahim, F., Kulkarni, S.R., Maksymovych, P., Talin, A.A., Tallada, M.G., Vanna-lampikul, P., Young, A.R., Brooks, D. and Cao, Y., 2023. Abisko: Deep codesign of an architecture for spiking neural networks using novel neuromorphic materials. *The International Journal of High Performance Computing Applications*, 37(3-4), pp.351-379.
4. Vanna-lampikul, Pruek, Yi-Chen Lu, Da Eun Shim, and Sung Kyu Lim. "Gnn-based multi-bit flip-flop clustering and post-clustering design optimization for energy-efficient 3d ics." *ACM Transactions on Design Automation of Electronic Systems* 28, no. 5 (2023): 1-26.
5. P. Vanna-lampikul et al., "Glass Interposer Integration of Logic and Memory Chipllets: PPA and Power/Signal Integrity Benefits," in *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, vol. 44, no. 5, pp. 1954-1967, May 2025
6. Hsiao, H. H., Lu, Y. C., Vanna-lampikul, P., & Lim, S. K. (2026). A Hybrid Reinforcement Learning Framework for Efficient Physical Design Parameter Tuning. *ACM Transactions on Design Automation of Electronic Systems*.

### 5.2 Refereed Conference Publications

1. C. Vongchumyen, P. Vanna-iampikul, and A. Mongkonrat , IPSC Training System, *Proceedings of Science and Engineering Symposium 4th International Science, Social Science, Engineering and Energy Conference 2012*, pp. 131 – 134
2. Kim, Jinwoo, Gauthaman Murali, Pruek Vanna-lampikul, Edward Lee, Daehyun Kim, Arjun Chaudhuri, Sanmitra Banerjee, Krishnendu Chakrabarty, Saibal Mukhopadhyay, and Sung Kyu Lim. "RTL-to-GDS design tools for monolithic 3D ICs." In *Proceedings of the 39th International Conference on Computer-Aided Design*, pp. 1-8. 2020.
3. Vanna-lampikul, Pruek, Chengjia Shao, Yi-Chen Lu, Sai Pentapati, and Sung Kyu Lim. "Snap-3D: A constrained placement-driven physical design methodology for face-to-face-bonded 3D ICs." In *Proceedings of the 2021 International Symposium on Physical Design*, pp. 39-46. 2021.
4. Miniskar, Narasinga Rao, Pruek Vanna-lampikul, Aaron Young, Sung Kyu Lim, Frank Liu, Jieun Yoo, Corrinne Mills, Nhan Tran, Farah Fahim, and Jeffrey S. Vetter. "A 3D Implementation of Convolutional Neural Network for Fast Inference." In *2023 IEEE International Symposium on Circuits and Systems (ISCAS)*, pp. 1-5. IEEE, 2023.
5. Vanna-lampikul, Pruek, Lingjun Zhu, Serhat Erdogan, Mohanalingam Kathaperumal, Ravi Agarwal, Ram Gupta, Kevin Rinebold, and Sung Kyu Lim. "Glass Interposer Integration of Logic and Memory Chipllets:

- PPA and Power/Signal Integrity Benefits." In 2023 60th ACM/IEEE Design Automation Conference (DAC), pp. 1-6. IEEE, 2023.
6. Hsiao, Hao-Hsiang, Yi-Chen Lu, Pruek Vanna-iampikul, and Sung Kyu Lim. "FastTuner: Transferable Physical Design Parameter Optimization using Fast Reinforcement Learning." In Proceedings of the 2024 International Symposium on Physical Design, pp. 93-101. 2024.
  7. Vanna-iampikul, Pruek, Hang Yang, Jungyoum Kwak, Joyce X. Hu, Amaan Rahman, Nesara Eranna Bethur, Callie Hao, Shimeng Yu, and Sung Kyu Lim. "Back-side Design Methodology for Power Delivery Network and Clock Routing." In 2024 IEEE Symposium on VLSI Technology and Circuits (VLSI Technology and Circuits), pp. 1-2. IEEE, 2024.
  8. Bethur, Nesara Eranna, Pruek Vanna-iampikul, Odysseas Zografos, Lingjun Zhu, Giuliano Sisto, Dragomir Milojevic, Alberto Garcia-Ortiz et al. "GNN-assisted Back-side Clock Routing Methodology for Advance Technologies." In Proceedings of the 61st ACM/IEEE Design Automation Conference, pp. 1-6. 2024.
  9. Hsiao, Hao-Hsiang, Pruek Vanna-iampikul, Yi-Chen Lu, and Sung Kyu Lim. "ML-based physical design parameter optimization for 3d ics: From parameter selection to optimization." In Proceedings of the 61st ACM/IEEE Design Automation Conference, pp. 1-6. 2024.
  10. Boxun Xu, Junyoung Hwang, Pruek Vanna-iampikul, Sung Kyu Lim, and Peng Li. 2025. Spiking Transformer Hardware Accelerators in 3D Integration. In Proceedings of the 43rd IEEE/ACM International Conference on Computer-Aided Design (ICCAD '24). Association for Computing Machinery, New York, NY, USA, Article 229, 1–9.
  11. Seungmin Woo, Pruek Vanna-iampikul, and Sung Kyu Lim. 2025. AI-Driven Evaluation and Optimization of Bump Pitch Effects on Chiplet and Interposer Design Quality. In Proceedings of the 43rd IEEE/ACM International Conference on Computer-Aided Design (ICCAD '24). Association for Computing Machinery, New York, NY, USA, Article 140, 1–9.
  12. Pruek Vanna-iampikul, Junsik Yoon, Chaeryung Park, Gary Yeap, and Sung Kyu Lim. 2025. Placement-Aware 3D Net-to-Pad Assignment for Array-Style Hybrid Bonding 3D ICs. In Proceedings of the 2025 International Symposium on Physical Design (ISPD '25). Association for Computing Machinery, New York, NY, USA, 200–208.
  13. Pruek Vanna-iampikul, Visutr Boonnateephisit, Somphop Limsoontharakul, Jednipat Moonrinta, Matthew N Dailey, Mongkol Ekpanyapong. 2D LiDAR-Based Eucalyptus Tree Measurement and Monitoring System using Mobile Application. In Proceedings of the 2025 13th International Electrical Engineering Congress (iEECON).
  14. Jiawei Hu, Pruek Vanna-iampikul, Zhen Zhuang, Tsung-Yi Ho and Sung Kyu Lim, "GNN-MLS: Signal Routing in Mixed-Node 3D ICs through GNN-Assisted Metal Layer Sharing", ACM Design Automation Conference, 2025.
  15. Hao-Hsiang Hsiao, Yi-Chen Lu, Pruek Vanna-iampikul, Anthony Agnesina, Rongjian Liang, Yuan-Hsiang Lu, Haoxing Ren and Sung Kyu Lim, "DCO-3D: Differentiable Congestion Optimization in 3D ICs", ACM Design Automation Conference, 2025
  16. Park, M. G., Vanna-iampikul, P., & Lim, S. K. (2025, October). Closing the Gap: Advantages of Block-Level over Gate-Level in 3D IC Design for Advanced Nodes. In 2025 IEEE/ACM International Conference On Computer Aided Design (ICCAD) (pp. 1-9). IEEE.

17. Hu, J., Zhang, C., Vanna-iampikul, P., Krishna, T., & Lim, S. K. (2026, January). Boosting Scalability and Performance: Macro Placement for Flexible 3D-Stacked ML Accelerators. In 2026 31st Asia and South Pacific Design Automation Conference (ASP-DAC) (pp. 979-985). IEEE.

## **6. Campus Contributions**

1. Member, Undergraduate Curriculum Committee, Embedded System and Electronic Communication Program, Department of Electrical Engineering (September 2024 - present)

## **7. Academic Services**

1. Trainer, Backend TESA-Train the Trainer, RISC-V SoC Project by TESA ( December 2025 - January 2026)