

# NUTCHANON JARIYANURUT

Bangkok, Thailand | [nutchanon.non@outlook.co.th](mailto:nutchanon.non@outlook.co.th) | [https://nutchanonj.github.io/pages/2\\_about/](https://nutchanonj.github.io/pages/2_about/)

## EDUCATION

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### Chulalongkorn University

B.S., Electrical Engineering *GPA: 3.99*

Aug 2019 - May 2023

### Mahidol Wittayanusorn School

Degree in Math – Science Program *GPA: 4.00*

May 2016 - Feb 2019

## WORK EXPERIENCE

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### Silicon Craft Technology PLC

Bangkok, Thailand

*Analog Design Trainee*

May 2022 - July 2022

- Designed two-stage op-amp to meet the required specifications, with Python coding to automate and accelerate the design process. [Link]
- Literature review on wireless power transfer technology utilizing NFC frequency.

## SKILLS

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### Programming/Embedded Circuit Design

MATLAB, Python, VHDL/Verilog, C/C++, Linux, FreeRTOS  
Xilinx Vitis/Vivado, prototyping on Zynq-7000 SoC,  
IC Layout (Microwind 3), SkyWater130 PDK, PCB Design (KiCAD)

### 3D Prototyping

Fusion 360, AutoCAD

## PROJECTS

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### Analog IC Design Mini-Project (2023)

- Utilizing SkyWater SKY130 PDK, verify the results of the paper designing VCO. The circuits are edited in xschem and simulation is done by ngspice. [Link]

### Senior Project (2022 - 2023)

- Designing wireless power transfer system utilizing NFC frequency, simulation by LTSpice to achieve 70% power transfer efficiency with output voltage control. This project is collaborated with Silicon Craft Technology PLC. [Report in Thai]

### Digital IC Design Mini-Projects (2022)

- Layouting non-overlapping clock generator in Microwind 3 using 0.12  $\mu\text{m}$  technology to meet specifications. [Link]
- Layouting one-bit serial adder in Microwind 3 using 0.12  $\mu\text{m}$  technology to meet 10 GHz spec. Functional verification by Xilinx Vivado. [Link]

### Member in EIC (Robotic club in the Faculty of Engineering) (2019 - 2022)

- In the EE team, made the robot for the RoboCup 2023 @Home open platform league, designing the controller of base motors. (2021 - 2022). The robot received the second place in the league. [Link] [Link].
- Participated in an internal robot competition, making Sumo bot. (2019)

### Embedded System Mini-Project (2022)

- Designed system controlling multiple sensors and multiple actuators simultaneously using FreeRTOS.

### Participated in Digital Design Thailand 2021 Camp (2021)

- Learned about FPGA and digital design, made TX/RX UART modules, and an interface to receive bitmap file on a computer and display it on an HDMI monitor.

### Project in High School (2018-2019)

- Invented wood density measuring instrument by measuring speed of sound in wood by piezoelectric effect. (Received Second Place in National Round, Young Scientist Competition 2018, Thailand.)

## RELEVANT COURSEWORKS

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Analog and Digital IC Design, Embedded Systems, Linear & Digital Control Systems, Artificial Intelligence for Engineering, Optimization Techniques, Stochastic Processes, Media Compression Techniques

## EXTRACURRICULAR ACTIVITIES (UNDERGRAD)

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- Member of Academic Team, Engineering Student Committee, Chulalongkorn University (2021 - 2022)** - gathering study resource and advices for 1st year students, introduction to 10 departments in the faculty, and 2022 online faculty job fair in which more than 80 companies and 1600 participants involved.
- Works in Tutoring:** wrote the 400-page free-to-download book for National Chemistry Olympiad camp in Thailand, now has over 3000 downloads.
- Graphical** Adobe Illustrator,  $\text{\LaTeX}$ , Web Design (HTML, CSS, Jekyll & Liquid)

## LANGUAGE

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TOEFL: 29/27/20/26 (Reading/Listening/Speaking/Writing)