Natcha Cota

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Motivated and skilled Developer with intermediate proficiency in Python and SQL, along with a solid foundation in scientific tools, statistics, and machine learning. Experienced in data analysis, visualization, and working with scientific technologies. Looking for a middle to high level data driven related position to contribute to a dynamic team and gain practical experience in developing innovative solutions.

English Score: TOEIC **820**

PROFESSIONAL EXPERIENCE:

2022 to present Senior Officer, Smart City Promotion Department, depa, Thailand

2019 to 2022 Assistant Researcher, Terahertz Technology Research Team, NECTEC, Thailand

2016 to 2019 Assistant Researcher, RF Electronics laboratory, NECTEC, Thailand

EDUCATION BACKGROUND:

2013 to 2016 Kasetsart University Master's Degree in Information and Communication Technology for Embedded Systems (International Program), GPA: 3.58

2010 to 2013 Rajamangala University of Technology Thanyaburi, Bachelor's Degree in Telecommunication Engineering, GPA: 3.69

PROFESSIONAL SKILLS:

- **Hard Skills**
  - Python (Intermediate)
  - SQL (Intermediate)
  - Scientific Tools (pandas, numpy, scipy)
  - Statistics (Classification, Regression, Clustering)
  - Machine learning (Scikit-Learn)
  - Spreadsheet (Excel, Google Sheets)
  - Visualization (Power Bi and Tableau)
  - Microcontroller and IoT
- **Soft Skills**
  - Scientific thinking
  - Observation
  - Decision making
  - Problem-solving
  - Communication

RESEARCH & PROJECT:

Smart City Promotion Project	**2022 to Present**
Responsibilities: - Consult the city leader who want to develop their city to be smart city and help them to analyze their strong point and weak point in order to match suitable technology. - Follow the progression of the cities which are getting smart city logo. **Project Highlight/Achievement** - Smart city development proposal	
Smart City Index Project	**2022**
Responsibilities: - Working as inspecting committee and secretary - Follow up the vendor to submit their work in time. **Project Highlight/Achievement** - Smart city index that can reflect the development of the cities	
THz Full-Body Scanner for Hidden Object Detection	**2020**
Responsibilities: - Work with team members to design of an experiment of the data collection before the image reconstruction process. - Design schematic and develop firmware to control the rotation motorized stage. **Project Highlight/Achievement** - The prototype 360-degree scanner using THz source and THz detector to detect some object inside the box and reconstruct the image of the hidden object.	
LUNAR: LIDAR + UWB aNd Augmented Reality)	**2019**
Responsibilities: - Working as project manager - Pitch to get fund (4 M.) - Develop a project proposal. - Design and develop software to collect sensor data and construct the 3D indoor map. - Work with design team to develop trolley platform for hardware installation - Develop software to merge UWB data to increase the map accuracy - Design of an experiment to construct 3D indoor map - Analyze collecting data in order to find system accuracy **Project Highlight/Achievement** - The prototype of LiDAR indoor mapping system that can integrate the UWB data	
Terahertz Technology Platform for Applications in Food & Agriculture	**2018**
Responsibilities: - Operate THz time domain spectroscopy and FTIR to collect the spectrum (fingerprint) from interesting samples - Develop automate fingerprint collection system for THz time domain spectroscopy system **Project Highlight/Achievement** - The prototype of automate fingerprint collection system - THz databank for food & agriculture products in Thailand	
Smith-Purcell Free Electron Laser for THz Imaging	**2017**
Responsibilities: - Work with team to design vacuum chamber - Work with team to design electron gun - Simulate of THz grating for generating THz wave - Develop automated e-beam data collection system - Collect e-beam data after replacing the customized grating **Project Highlight/Achievement** - The prototype of tabletop THz source that can radiate THz wave	
X-Band Phased Array Weather Radar	**2017**
Responsibilities: - Design schematic for controlling phase of sinusoidal signal - Develop control and measuring system for the phased array radar	

- Work with team to design the data collection experiment **Project Highlight/Achievement** - The system that can change the phase of sinusoidal signal for steering the beam direction to desire path	
Candle blessing innovation	**2016**
Responsibilities: - Develop firmware to control digital candle for displaying the blessing quote **Project Highlight/Achievement** - Controlling of more than 100 digital candles for displaying the blessing quote	
Phuket smart city	**2016**
Responsibilities: - Do literature review in outdoor 3D mapping using LiDAR - Work with team to design the system before fabrication process - Design of an experiment to compare the accuracy of this system to the high-end one - Field test in Phuket **Project Highlight/Achievement** - The prototype of outdoor 3D mapping using LiDAR	

PUBLICATIONS:

Journal Article

[1] Jintamethasawat R., Thanapirom C., Rattanawan P., Cota N., **Cota N**., Jia Yi C., Kasamsook K., Non-uniformity Correction Algorithm for THz Array Detectors in High-Resolution Imaging Applications. International Journal of Infrared, Millimeter, and Terahertz Waves, 2020. 41(8): p. 940-956.

Proceeding

[1] Loahavilai P., Thanapirom C., Rattanawan P., Chulapakorn T., Yanwicharaporn S., Kingkan C., Prasertsuk K., **Cota N.**, Rapid Deployment of Ultra-Wideband Indoor Positioning System. The 18th International Joint Conference on Computer Science and Software Engineering (JCSSE2021), Lampang, Thailand, July 1-3, 2021

[2] **Cota N.**, Loahavilai P., Yanwicharaporn S., Phukphan P., Jintamethasawat R., Chulapakorn T., Rattanawan P., Kingkan C., Prasertsuk K., Quality Evaluation Method of 2D SLAM. The 18th International Joint Conference on Computer Science and Software Engineering (JCSSE2021), Lampang, Thailand, July 1-3, 2021

[3] Cota N., Jintamethasawat R., Prasertsuk K., Rattanawan P., Cota N., Jia Yi C., Kusolthossakul W., Poomvised P., Chulapakorn T., Towards accurate non-contact moisture inspection using THz imaging and thickness information. Siam Physics Congress 2021, Songkla, Thailand, May 24-25, 2021.

[4] **Cota N.**, Kasetkasem T., Kovavisaruch L., Yamaoka K., A Robust and Energy-efficient Object Tracking Algorithm for a Wireless Sensor Network. The 2016 International Electrical Engineering Congress (iEECON2016), Chiang Mai, Thailand, March 2-4, 2016

[5] **Cota N.**, Kasetkasem T., Kovavisaruch L., Yamaoka K., A robust moving object tracking. The 2015 International Conference on Information and Communication Technology for Embedded Systems (IC-ICTES 2015), Prachuap Khiri Khan, Thailand, March 22-24, 2015

THAILAND PATENTS:

[1] 3D mapping system using LiDAR with RTLS (Real-Time Location System), (Application no. 1901005868)

[2] THz generator (Application no. 1701005320)

[3] Methodology to generate drone jamming signal (Application no. 1703001869)

OTHER:

Scholarship

- True x Samart Skills (1st Batch)
- Sripatum University scholarship: Artificial Intelligence of Things for Industrial 4.0 in 2022
  - Completed course work and submitted project named "Smart water gate management" which is used to monitor water level and give Real-time notification when the situation trend to be flood.
- TAIST-Tokyo Tech master's degree scholarship in 2013

Training

- Complete Data Scientist Associate Certificate from DataCamp
  - This course helps me gain knowledge about data storytelling, fundamental of statistic for data science, machine learning model and let me did some hand on practice like EDA and utilize machine learning model both supervise and unsupervised model
- Complete the SQL Beginner to Advanced For Data Professionals Certificate from codebasics.
  - This course helps me understand more how to use SQL to collect, merge and analyze in data industry as well as using python to connect to database and run SQL command to retrieve data and plot it in order to explore its insight.
- Completed the Google Data Analytics Professional Certificate
  - This course lets me understand more how to analyze, interpret, and present to stakeholders.
- Completed the AIoT for Industry 4.0 Certificate from Sripatum University
  - I understand more about IoTs world after finishing this course. Thank to this course, I can connect IoTs device through the cloud, can control them everywhere, can analyze data using Bi and can predict situation in advance using ML
- Completed the Python For Beginner and Intermediate Learners Certificate from codebasics
  - This course helps me refine my python skill. During the course, I did the mini project following the instructor to interpret prescription using OCR and develop simple API using Django to simulate the real-world situation.

Committee

- depa: Procurement committee
  Inspecting committee
  Drafting TOR committee
- NECTEC: Procurement committee
  Inspecting committee
  Drafting TOR committee

ACTIVITIES AND HOBBIES:

- Playing badminton
- Reading light novel
- Jogging

- Online learning