

# Kittapat Ratanaphupha

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## Research Interests

Differential geometry especially in geometric analysis and symplectic geometry.

## Education

Undergraduate	BSc Health Data Science,
Aug 2018 – May 2022	Joint degree with Department of Computer Engineering, King Mongkut's University of Technology Thonburi (Bangkok, Thailand) and Faculty of Medicine and Public Health, Princess Srisavangavad- hana College of Medicine, Chulabhorn Royal Academy (Bangkok, Thailand)

## Project Thesis (In Progress)

Jul 2021 – May 2022	Investigation on Fluxomics Data Subject to Plant Varieties and Environmental Conditions of Cassava by Using Machine Learning Model
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Project Advisors:

- Asst. Prof. Dr. Santitham Prom-On
- Assoc. Prof. Dr. Treenut Saithong (Co-advisor)
- Asst. Prof. Dr. Saowalak Kanlapanulak (Co-advisor)

## Relevant Courseworks

2020: Differential geometry with self-study coursework in Pseudo-Riemannian manifold.

2021: Numerical methods algorithm implementation from nearly scratch.

(Accessible on: [https://github.com/KittapatR/numerical\\_analysis](https://github.com/KittapatR/numerical_analysis))

2022: Differentiable Manifolds (taken a graduate course in Chulalongkorn University)

## Honors & Scholarships

Aug 2018 – May 2022	Received fully funded scholarship on BSc Health Data Science from the department due to my academic merit
Aug 2018	Pass a placement exam for the General Physics for Engineering Students I course exemption
Jan 2019 – Dec 2019	Studied honors classes on general mathematics and physics (Math- ematics II, Mathematics III, and General Physics for Engineering Students II)
Jul 2019	Received scholarship on High GPA distinctions from the depart- ment (above 3.50 in 4.00 scale)

## My Experience

### Research/Work Experience

- Jun 2017 — Jan 2018      Mathematical physics research with Asst. Prof. Dr. Sikarin Yoo-Kong, King Mongkut's University of Technology Thonburi
- Major Project:**  
Saksilpa Srisukson, Kittapat Ratanaphupha, Sikarin Yoo-Kong (2018), *Hamiltonian Zoo for systems with one degree of freedom*, arXiv: 1802.06370.
- June 2019 – July 2019      Extracurricular internship  
Government Big Data Institute, Ministry of Digital Economy and Society, Thailand
- Focuses:**  
text analytics and data science
- Text analytics in social network data with collaboration of Department of Revenue, Ministry of Finance
- June 2020 – August 2020      Summer internship  
Ramathibodi Hospital, Thailand
- Focuses:**  
Data analytics and data visualization
- Visualized a medicine prescription data to find an insight in rational use of medicine via Microsoft PowerBI

### Teaching Experience

- 2018 — 2019      Teaching Assistant in general physics and web development
- 9 Nov 2021      Teach in Discrete Fourier Transform and its applications on Numerical Method II class

### Extracurricular activities

#### Schools Attended:

- 16–21 July 2018: The 3<sup>rd</sup> KMUTT Summer School on Theoretical Physics  
“Dirac and Topological Matters”, Theoretical and Computational Physics group,  
King Mongkut's University of Technology Thonburi, Thailand
- 23–27 July 2018: Thailand School on High-Energy and Astro-Physics (SHEAP 2018)  
Chulalongkorn University, Thailand  
Covered on Introductory Quantum Field Theory and General Relativity
- 24–26 December 2018: The 2<sup>nd</sup> Winter School: String Theory I  
Theoretical and Computational Physics group,  
King Mongkut's University of Technology Thonburi, Thailand  
Covered on Classical relativistic string and quantum relativistic string

10–14 June 2019: The 4<sup>th</sup> KMUTT Summer School on Theoretical Physics  
“Multi-Scale Modelling”, Theoretical and Computational Physics group,  
King Mongkut’s University of Technology Thonburi, Thailand

17–21 June 2019: The 2<sup>nd</sup> Thailand School on High-Energy and Astro-Physics (SHEAP  
2019), “Gravitation & Black Holes”, Naresuan University

28 June – 1 July 2021: The 5<sup>th</sup> KMUTT Summer School on Theoretical Physics  
“Complex Systems and Biophysics”, Theoretical and Computational Physics group,  
King Mongkut’s University of Technology Thonburi, Thailand