

# กิตติพงศ์ ศิริวงศ์รังสรรค์

## Curriculum Vitae

Medical Doctor & R developer

### Employments

#### Radiology Resident

2565–Now แพทย์ประจำบ้าน, ภาควิชารังสีวิทยา สาขาวิชารังสีวิทยาวิจักษ์ คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล

#### Internist

2563–2565 แพทย์ใช้ทุน, ภาควิชาสรีรวิทยา คณะแพทยศาสตร์ศิริราชพยาบาล มหาวิทยาลัยมหิดล

2562–2563 แพทย์เพิ่มพูนทักษะ, โรงพยาบาลพระนั่งเกล้า, จังหวัดนนทบุรี

### Educations

2556–2561 หลักสูตรแพทยศาสตรบัณฑิต, คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล  
เกียรตินิยมอันดับ 2

2553–2555 มัธยมศึกษาตอนปลาย, โรงเรียนเตรียมอุดมศึกษา

### Languages

Thai Proficient  
English Good User

Native Thai Speaker  
IELTS Academic test = 7

### Interests

Data Science I generally interested in all areas of data science including data analysis, data visualization, statistics, and machine learning.

Coding I like the concept of writing code to make life better, even simple project can automate tasks and be a prototype to scale up further. My first and primary language is R. I've used R in many areas of data science from performing data analysis, data visualization, and statistics to building reproducible reports, web application, and more.

## Computer Skills

■ ■ ■ ■ ■ basic knowledge

■ ■ ■ ■ ■ intermediate knowledge with some project experience

■ ■ ■ ■ ■ extensive project experience

■ ■ ■ ■ ■ deepened expert knowledge

■ ■ ■ ■ ■ expert / specialist

	Level	Skill	Years	Comment
Languages:	■ ■ ■ ■ ■	R	2	<i>R is my primary language. I enjoy my free time as an R developer (building R packages and Shiny applications) and perform data analysis using R.</i>
	■ ■ ■ ■ ■	Python	1	<i>Python is very popular in data science which I would like to learn more to complement my R skill.</i>
	■ ■ ■ ■ ■	Julia	1	<i>Julia is a high-performance scientific computing language. I've learned some basic of Julia and might take a deeper dive in the future.</i>
	■ ■ ■ ■ ■	JavaScript	1	<i>I sometimes use JS to write <b>Google Apps Script</b>.</i>
	■ ■ ■ ■ ■	HTML/CSS	2	<i>I've known some basic to build simple HTML document or style simple web page.</i>
Literate Programming:	■ ■ ■ ■ ■	Quarto	1	<i>An open-source scientific and technical publishing system. I recently use Quarto a lot to making reports, books, and blog posts.</i>
	■ ■ ■ ■ ■	R Markdown	2	<i>A dynamic documents that combine code, rendered output, and prose using R. I've used a lot before Quarto was born.</i>
	■ ■ ■ ■ ■	LaTeX	1	<i>A high-quality typesetting system for PDF. This CV was made using LaTeX!</i>
	■ ■ ■ ■ ■	Jupyter Notebook	1	<i>I sometime use for writing Python code.</i>
R Packages:	■ ■ ■ ■ ■	Tidyverse	2	<i>A collection of R packages for data science. I like to tidyverse for data import, transformation, and plotting.</i>
	■ ■ ■ ■ ■	Tidymodels	1	<i>A collection of packages for modeling and machine learning using tidyverse principles. I'm interested to learn more tidymodels tools in the future.</i>
	■ ■ ■ ■ ■	Shiny	2	<i>A data science web application framework in R. I've build quite a lot of Shiny app and would like to expand my skill on UI development and making production-grade app.</i>
CLI:	■ ■ ■ ■ ■	Git	2	<i>I manage my project with Git and <b>Github</b>.</i>
	■ ■ ■ ■ ■	Linux Shell	2	<i>I use Zsh.</i>
Software:	■ ■ ■ ■ ■	RStudio	2	<i>It's my favorite IDE for R.</i>
	■ ■ ■ ■ ■	VS code	1	<i>It's my text editor of choice for general usage.</i>
Office Tools:	■ ■ ■ ■ ■	Google Sheets / Excel	2	<i>I often use spreadsheets for some basic data organization and writing formulas can be helpful.</i>

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## Research Experience

- 2564 - 2565 **"Factors Associated with Changes in Heart Rate Variability and Baroreflex Sensitivity Following Acute Stroke"** (ongoing) ร่วมกับ รศ.ดร.พญ.วัฒนา วัฒนาภา และ รศ.นพ.ยงชัย นิละนนท์
- ช่วยเหลืองานวิจัยในขั้นตอน data collection, data processing & cleaning โดยใช้โปรแกรม R

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## R Package Projects

### General

- **thaipdf**: R Markdown to PDF in Thai language ([CRAN](#)) [1].

### Education

- **moodleStats**: Perform quiz analysis and item analysis on Moodle Grades Report [2].
- **moodleQuiz**: Combine and manipulate Moodle Quiz Report for grading [3].
- **zoomclass**: Analyze Zoom's participants report and chat file [4].
- **rslab**: Calculate various respiratory physiology parameters [5].

### Research

- **labChartHRV**: Import and manipulate LabChart's Heart Rate Variability Data [6].

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## Web Application Projects

- **TIRADS Calculator**: A Calculator for Thyroid Imaging Reporting & Data System [7].
- **Harvard Spirometer Tracing Simulator**: Simulate Harvard Spirometer tracing from mathematical model [8].
- **SELECx MCQ Analysis**: Analyze quizzes and questions from [SELECx](#) [9].
- **SELECx Combine Quiz**: Combine quiz reports from [SELECx](#) [10].
- **Combine HRV & BRS report files**: Combine LabChart's HRV Report files to Excel [11].

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## Blog

Blog I also like writing online content. You are welcome to visit my [website](#) or [data science blog](#).

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## Training

### Academic training

- **Data Analysis with R Programming by Google** (Coursera) — [Certificate](#)
- **Statistical Learning by StanfordOnline** (Coursera) — [Certificate](#)
- **Advanced R Programming by Johns Hopkins University** (Coursera) — [Certificate](#)
- **Cell and molecular biology course for postgraduate students** (Mahidol university)

### Other training

- การพัฒนาข้อสอบปรนัยเพื่อประเมินความรู้ทางการแพทย์ (SHEE) — [Certificate](#)
- การทำสไลด์นำเสนออย่างมืออาชีพ (SHEE) — [Certificate](#)

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## Teaching

- 2564 - 2565 **An Introduction to R programming for SI Physiology (r4sips)** — [online book](#)  
**Respiratory physiology (SIET216)**

Cardiovascular physiology (SIET216)  
Nervous System 1 (PNS) (SIET216)

## Presentations

### At the department of physiology (2564–2565)

- นำเสนอ โครงการวิจัย-นวัตกรรม ในหัวข้อ “R Journey in Physiology Department” — Slide
- นำเสนอ โครงการวิจัย-นวัตกรรม ในหัวข้อ “Web application วิเคราะห์คะแนนนักศึกษาจากระบบ SELECx” — SELECx MCQ Analysis [9]
- นำเสนอ Scientific articles ใน Journal clubs ในหัวข้อ “Heart rate variability analysis and cardiac dysautonomia in ischemic stroke patients”
- นำเสนอ Scientific articles ใน Journal clubs ในหัวข้อ “RSA in the immediate post-exercise period: correlation with breathing-specific heart rate”

## Other Experiences

### At the department of physiology (2564–2565)

- สร้างและออกแบบ ระบบการติดตามภาระงานแพทย์ใช้ทุน ด้วย Google Sheets และ R package: googlesheets4 และ googledrive
- ปฏิบัติงานช่วยเหลือแพทย์ประจำบ้านใน ward ผู้ป่วย COVID-19 ที่ ตึกอักษุศาสตร์ คณะแพทยศาสตร์ศิริราชพยาบาล ในระหว่างวันที่ 28/ก.ค./64 - 4/ส.ค./64

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## References

- [1] Kittipos Sirivongrungson. *thaipdf: R Markdown to PDF in Thai Language*, 2022. R package, <https://CRAN.R-project.org/package=thaipdf>.
- [2] Kittipos Sirivongrungson. *moodleStats: A High-level R Package for Analysis of Moodle Grades Report*, 2022. R package, <https://lightbridge-ks.github.io/moodleStats/>.
- [3] Kittipos Sirivongrungson. *moodleQuiz: A High-level R Package for Manipulation of Moodle Quiz Report*, 2022. R package, <https://lightbridge-ks.github.io/moodleQuiz/>.
- [4] Kittipos Sirivongrungson. *zoomclass: Zoom Class*, 2022. R package, <https://lightbridge-ks.github.io/zoomclass>.
- [5] Kittipos Sirivongrungson. *rslab: Functions for Respiratory System Physiology Lab*, 2022. R package version, <https://lightbridge-ks.github.io/rslab>.
- [6] Kittipos Sirivongrungson. *labChartHRV: LabChart's HRV Data Import and Manipulation*, 2022. R package, <https://lightbridge-ks.github.io/labChartHRV/>.
- [7] Kittipos Sirivongrungson. *A Calculator for Thyroid Imaging Reporting and Data System*, 2022. Shiny web application <https://kittipos.shinyapps.io/tirads-calc/>.
- [8] Kittipos Sirivongrungson. *Harvard Spirometer Tracing Simulator*, 2022. Shiny web application <https://kittipos.shinyapps.io/harvard-spirometer>.
- [9] Kittipos Sirivongrungson. *SELECx MCQ Analysis: Analysis of Quizzes and Questions from SELECx*, 2021. Shiny web application [https://si-physio-intern.shinyapps.io/SELECx\\_mcq\\_analysis/](https://si-physio-intern.shinyapps.io/SELECx_mcq_analysis/).
- [10] Kittipos Sirivongrungson. *SELECx Combine Quiz: Combine Quiz Reports from SELECx*, 2021. Shiny web application [https://si-physio-intern.shinyapps.io/SELECx\\_combine\\_quiz/](https://si-physio-intern.shinyapps.io/SELECx_combine_quiz/).
- [11] Kittipos Sirivongrungson. *Combine HRV and BRS report file: Combine HRV and BRS report from program LabChart and BeatScope Easy*, 2021. Shiny web application [https://sips-ans.shinyapps.io/read\\_HRV\\_report/](https://sips-ans.shinyapps.io/read_HRV_report/).