Jirachote Karunyakorn

62/152 Cheangwattana Rd. Pakret Nontaburi 11120
Email: sonsunjirachote@gmail.com **Mobile number:** 092-557-2548

WORK AND ACADEMIC EXPERIENCE

- **Dr. Pornchai's lab at Department of Biochemistry, Faculty of Medicine Chulalongkorn University**   (2020-Present)
  - ➤ Main project: Computational workflow development for identification of polyadenylated RNA in prokaryote from direct RNA nanopore sequencing data with polyuridylation
    - o Design bioinformatics workflow to study poly(A) tail length in prokaryotic RNA with Oxford Nanopore sequencing technology
    - o Design algorithm to improve poly(A) tail length estimation accuracy
    - o Design algorithm to segment sequence data based on CIGAR string
    - o Analyze result and report to advisor and colleagues
    - o The research provides custom library preparation to preserve native poly(A) tail length and bioinformatics workflow to identify short poly(A) tail length
    - o This research is the first study to report native poly(A) tail length of prokaryotic RNA with ONT.
  - ➤ Collaborate project: Using Xpore to build M^6-Methyladenosine (m6a) signal database
    - o Develop algorithm to build normal current profile without any m6a modification of synthetic RNA virus based on Xpore.
    - o Report progress of work and consult problems with advisor and colleagues
    - o This research provides native k-mer signal of nanopore of synthetic RNAs database to comparison and identify m6a k-mer signal location in virus's RNA.
  - ➤ Advisor Pornchai Kaewsapsak Ph.D.
- **EPA Academic Center**   (2022-Present)
  - o Part-time biology teacher
  - o Prepare study~~teaching~~ materials and outline for each student
  - o Teach~~ing~~ biology for Thai program and international program exams, ~~exams & international standardized tests~~ such as IB, IGCSE and A-Level
  - o Have monthly? meeting~~Meeting~~ with colleagues to discuss about problems ~~and report problems~~ and propose suggestion
- **Math talent by Dr. Ying**   (2021-2022)
  - o Part-time science teacher
  - o Prepare study ~~teaching~~ materials and outline for each class

- o Teach~~ing~~ science (to 5-10 years old students) ~~to make student understand science content~~ through ~~teaching materials~~, toys, experiment, and activities method~~.~~
- o Evaluate and report ~~Report~~ student performances to their parents ~~and behavior to parent~~
- **Dr. Warut's lab at Department of Biology, Faculty of Science, Mahidol University** (2019-2020)
  - ➢ Comparative phylogeny and DNA barcode of Asian Centipede in genus *Scolopendra* linnaeus, 1758
    - o Design experiment and bioinformatics workflows to study phylogenetics of Asian centipede
    - o Use both morphological and molecular data to delimit species of Asian *Scolopendra* Centipede
    - o Report progress and consult problem with advisor and colleagues
    - o This study clarifies the taxonomic boundaries and review phylogenetic structure of Asian *Scolopendra* species.
  - ➢ Advisor Warut Siriwut Ph.D.
- **Freelance Tutor** (2018-Present)
  - o Teach~~ing~~ biology to bilingual and international high school students
  - o Prepare teaching material and outline for each student
  - o Students develop biology knowledge by increase biology subject score and grade at school and also pass university entrance examination (Civil Engineering and radiological technology, Thammasat university and Pharmacology, Khon Kaen University)

Formatted: Highlight

EDUCATION

- **Chulalongkorn University** (2020-Present)
  - o ~~Graduated school,~~ M.Sc. in Bioinformatics and Computational Biology Program
  - o GPAX 4.00
- **Mahidol University** (2016-2019)
  - o Faculty of Science, B.Sc. in Biology
  - o ~~First Honor degree~~
  - o GPAX 3.71

AWARDS

- **H.M. the King Bhumibhol Adulyadej's 72nd Birthday Anniversary Scholarship (fully funded)** (2020)
  Graduated student scholarship with full paid tuition fee and monthly salary

- **MU-backpack scholarship (fully funded)** (2018)
  The short-term cultural exchange study in Vietnam

- **HOK scholarship (half funded)** (2015)
  The short-term exchange secondary student in Singapore

WORK SKILLS

- **Bioinformatics**
  - Retrieval of information and data mining (NCBI, ensemble, KEGG, etc.)
  - DNA/RNA sequencing analysis (Sanger, illumina, Oxford Nanopore)
  - Phylogenetic analysis (Cipres)
  - Metagenomics and Microbiomes analysis (qiime2)
  - Protein structure and sequence analysis (iGEMDOCK, Amber, I-TASSER)
  - Gene expression and annotation analysis (DAVID, DEseq2, BLAST, GENEID)
- **Programming language (R, Python and Linux)**
  - Basic Linux command line for HPC server
  - Bioinformatics software command line (samtools, GATK, minimap2, etc.)
  - Data visualization (ggplot, dplyr, matplotlib, etc.)
  - Data analysis (Pandas, Scipy, Numpy, etc.)
- **Basic laboratory skill**
  - DNA/RNA extraction and purification
  - PCR and gel electrophoresis
- **Microsoft software skill (MS Word, Excel and PowerPoint)**
  - MS Word
  - MS Excel
  - MS PowerPoint
- **Critical thinking and initiative**
  - Analyze, summarize, and report research data to colleagues
  - Investigate research problems and propose proper solutions with perspective and literature detail
  - Eager to learn new things
- **Communication and collaboration**
  - Good teamwork and communication with colleagues
  - Growth and positive mindset
  - Negotiate with correct information considered and resolve the problem with acceptable solutions

LANGUAGES

- Thai (Native)
- English (Basic Working Proficiency, TOELF ITP 513)
- Japanese (Basic, JPLT N5)