



## CURRICULUM VITAE

### 1. PERSONAL INFORMATION

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**Name:** Bun Ratnatepy

**Date of Birth:** November 12, 2003

**Nationality:** Cambodian

**Address:** #38AE0, Street 218, Phnom Penh, Cambodia

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**GitHub:** <https://github.com/Ratnatepy>

**Portfolio:** <https://ratnatepy.github.io/Portfolio/>

### 2. PROFILE

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Fifth-year Data Science student at the Institute of Technology of Cambodia with practical experience applying analytics and machine learning to real-world problems. Interned at the Ministry of Post and Telecommunications and ReDA Lab, where I developed dashboards and performed NLP-driven sentiment analysis. Passionate about ethical AI, teamwork, and continuous learning.

### 3. EDUCATION

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- **2022 – Present:** Bachelor of Engineering in Data Science (*Expected Graduation: July 2026*)  
Department of Applied Mathematics and Statistics, Institute of Technology of Cambodia
- **2022:** Completed six diploma-level English courses at the Australia Centre for Education, including Business Writing, Academic Vocabulary, Creative Writing, Critical Thinking & Problem-Solving, Academic Reading & Vocabulary 2, and Academic Communication Skills
- **2021:** Senior High School Education Certificate (Grade B, overall score 98.412)
- **2019:** General English Program, Australia Centre for Education

### 4. SKILLS

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- **Technical:** Python, R, SQL, Power BI, Machine Learning, Predictive Modeling, Statistical Analysis, Data Visualization

- **Soft Skills:** Critical Thinking, Problem-Solving, Creativity, Communication, Team Collaboration

## 5. INTERNSHIP EXPERIENCE

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### Ministry of Post and Telecommunications

*Data Analyst Intern* | July 24 to September 30, 2024

- Designed and implemented an interactive dashboard to monitor telecommunication indicators, providing real-time performance insights and supporting data-driven decision-making.

### Research and Data Analytics (ReDA) Lab, Institute of Technology of Cambodia (ITC)

*Data Scientist Intern* | July 21 to September 30, 2025

**Project:** *Sentiment Analysis of Student Perceptions toward Moodle-Based Blended Learning in Higher Education*

- Cleaned and preprocessed unstructured survey data for analysis.
- Applied **k-modes clustering** to identify student behavior patterns toward blended learning.
- Performed **NLP-based sentiment analysis** on open-ended survey responses.
- Developed a **Power BI dashboard** with refreshable data for real-time visualization and insights.

**Outcome:** Delivered actionable insights into student perceptions, highlighting trends and key concerns regarding Moodle-based blended learning.

## 6. ACADEMIC PROJECTS

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### 1. Student Performance Prediction

Built a linear regression model to forecast student grades based on multiple features.

**Outcome:** Provided accurate predictions to support academic performance monitoring.

### 2. Loan Default Risk Model

Developed a classification model using income, loan amount, credit score, interest rate, and DTIRatio.

**Outcome:** Achieved **88.37% accuracy** in predicting default risk.

### 3. Disease Prediction Tool

Performed EDA, implemented ML models, and developed a web-based diagnostic tool.

**Outcome:** Improved disease detection accuracy, demonstrating the impact of ML in healthcare.

### 4. Driver Drowsiness Detection System

Used CNN and ZFNet with OpenCV and Arduino to detect drowsiness via facial cues.

**Outcome:** ZFNet achieved **89.59% accuracy**; deployed system triggered real-time alerts to improve road safety.

### 5. Traffic Sign Detection & Recognition

Integrated YOLOv8 for detection and custom CNN for classification in real-time.

**Outcome:** Delivered a functional, real-time recognition system for use in autonomous driving applications.

## 7. ACHIEVEMENTS & VOLUNTARY INVOLVEMENT

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### Technical & Academic Achievements

- Certificate of Internship, Ministry of Post and Telecommunications (2024)
- Certificate of Completion, Data Science Camp (UNESCO UNITWIN, 2023)
- The First Aspiration Competition, Ministry of Education (2021)

### Volunteering & Leadership

- Project Chair & MC, JCI Career Entrepreneurship Forum (2021)
- Project Officer, Cambodian Tax Compliance Training (2021)
- Volunteer, EducationUSA Fair & National Debate Championship (2020)

## 8. LANGUAGES

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- Khmer: Native
- English: Fluent
- French: Moderate
- Japanese: Moderate

## 9. REFERENCES

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- Asst. Prof. Dr. PHAUK SOKKHEY  
Head of department of Applied Mathematics and Statistics (AMS)  
Head of Master Program of Engineering in Data Science  
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