

FORWAH AMSTRONG TAH, Ph.D.

Curriculum Vitae

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GitHub: <https://github.com/Forwah2023>

SUMMARY

I am a researcher in computational neuroscience, a self-taught Python developer, and an experienced secondary/ high school Physics teacher with over ten years of teaching experience. While in academia as a PhD student, I had a solid mastery of programming languages like MATLAB, and Python. I am skilled in mathematical modelling, numerical simulations, data analysis, time series analysis, statistical analysis, and software programming, including web development. I obtained my PhD in Physics in 2022 in Biophysics from the University of Yaoundé I. I enjoy problem-solving and have a good understanding of algorithmic thinking. As a teacher and former Ph.D. student, I have learned how to work in teams to get things done. I am good at public speaking and know how to present data at conferences and in the classroom. I am seeking a career in scientific research with machine learning and data analysis, software development, or higher education.

EXPERIENCE:

❖ Python software developer: 2023-present Cameroon

Yaoundé,

- C.E.O of LMS, software developing company (Self-employed). I create fully interactive Python Desktop Apps for business and personal use. I also write documentation for published software. I can deploy Python software to Windows, and implement database support if necessary.

SKILLS

- Highly motivated self-learner.
- Python Programming
- HTML5, CSS and Javascript
- Web scraping and data mining
- Git and GitHub
- Django
- Database programming (SQL)
- Machine learning (predictive analysis).

❖ **Secondary and High school Physics teacher: 2013-Present** **Yaoundé, Cameroon**

- I work as a Physics/mathematics teacher for the Ministry of Secondary Education of Cameroon (MINSEC).
- Workload: 8 teaching hours per week.
- Design lesson plans and teach students aged 10-19.
- Dispense lectures in Physics and mathematics.
- I use digital tools and assets to make my lessons come to life.
- I have +10 years of teaching experience.
- Assess student performance based on a competency-based approach.
- Attentive to weak students and willing to improve on their weaknesses.
- I have up-to-date knowledge of the most efficient teaching techniques.
- Write assessment and pedagogy reports for the administration.

SKILLS

- Theory lesson planning
- Scientific inquiry development
- Student assessments
- Practical lesson planning
- Public speaking expert
- Educational research
- Interactive classroom instruction
- Project-based learning
- Attendance documentation

❖ **PhD researcher 2018-2022.** **Yaoundé, Cameroon**

- PhD student in Physics at the University of Yaoundé 1

- I worked on the mathematical modelling of neurons.
- I studied time series data of neural activity.
- I Published two scientific papers in journals with a good reputation.

SKILLS

- Good knowledge of documentation with Latex
- Critical thinking
- Journal publication procedures
- Numerical and analytical bifurcation analysis of ODEs and PDEs
- Proofreading and editing

SOFTWARE PROJECTS

❖ **PdfResearch (2023)**

<https://github.com/Forwah2023/PdfResearch>

PdfResearch is a GUI software capable of scanning for keyword combinations in folders containing pdf, .docx, and txt files. It is written with multithreading support and can graph the search results according to search count.

❖ **Classroom Insights (2023)**

<https://sourceforge.net/projects/classroom-insights>

This piece of software is written in Python and PyQt5. It is designed to help teachers perform various data analyses on the scores of their students throughout the academic year. This software:

- computes various descriptive statistics on the scores of the students, and on the teacher's performance on a given evaluation.
- Helps the teacher identify which students are currently dropping or improving in performance across evaluations
- It helps the teacher assess the effectiveness of any given teaching method.
- Provides a database management system where teachers can log in, save the statistics from previous sequences, and access them whenever needed.
- Has a database system, wherein teachers can aggregate all the statistics of a single department into a single file for a comprehensive perspective on the performance of a given department.
- Allow teachers to visualise students' performance across sequences as graphs or bar charts.

❖ **Analog-clock-python (2023)**

<https://github.com/Forwah2023/Analog-clock-Python>

A minimalist analogue clock implemented in PyQt5 with graphics Scene.

❖ Pdf_miner_scraper (2023)

https://github.com/Forwah2023/Pdf_miner_scraper

A scraper and PDF downloader for an online repository that stores past exam questions for the secondary and high schools that I teach. It requires the user to specify the exam year, subject and paper number to scrap the website and download the file.

EDUCATION

❖ 2018-2022. University of Yaoundé I

Ph.D. in Physics

- I specialized in theoretical and computational neuroscience.
- I worked mostly with single-cell mathematical models of neurons.
- The focus was on the bifurcation analysis of single and diffusion-coupled neuron models.
- I can work under pressure to complete my research.
- I received the highest grade on my thesis (A+).

❖ 2015-2018. University of Yaoundé I

MSc in Physics

- I specialized in soft matter **physics (Non-linear waves in biological neural networks)**
- Analytical methods to waves in excitable media (**Multiple scale expansion**)
- MATLAB programming
- Cumulative GPA of 3.42
- Best overall student in the Biophysics Research Group (2018)

❖ 2012-2013. University of Yaoundé I

BSc in Physics

- A solid mastery of the principles of vibrations and waves
- Complete training in numerical analysis
- Creation and management of enterprises

❖ 2009-2012 University of Bamenda

B.Ed. in Physics (Secondary school teacher diploma).

- Achieved basic communication and management skills through accredited courses.
- Knowledge of Pascal, Fortran, and C language programming.

CONFERENCES

❖ **CONFCAYS August 2021, Yaoundé, Cameroon.**

Workshop on ethics in research, entrepreneurship, the importance of patents in research, and funding opportunities in research.

Papers Presented (Podium)

- "Hopf bifurcations on invariant manifolds of a modified Fitzhugh–Nagumo model." *Nonlinear Dynamics* 102, no. 1 (2020): 311-327.

❖ **CERN HST program, July 2022, Geneva, Switzerland.**

Presentation (Podium)

- Better ways to teach particle detectors in the classroom

PUBLICATIONS

- ❖ **Tah, Forwah Armstrong**, Conrad Bertrand Tabi, and Timoléon Crépin Kofané. "Hopf bifurcations on invariant manifolds of a modified Fitzhugh–Nagumo model." *Nonlinear Dynamics* 102, no. 1 (2020): 311-327.

- ❖ **Tah, Forwah Armstrong**, Conrad Bertrand Tabi, and Timoléon Crépin Kofane. "Pattern formation in the Fitzhugh–Nagumo neuron with diffusion relaxation." *Chaos, Solitons & Fractals* 147 (2021): 110974.

LANGUAGES

- ❖ **English proficiency: C2**

- ❖ **French proficiency: C1**

HOBBIES

- ❖ **Sports**
- ❖ **Fitness**
- ❖ **Nutrition**
- ❖ **gaming**