Forwah Amstrong Tah, Ph.D.

Curriculum Vitae

Yaoundé, Etoug-Ebe, Carrefour Beignet (Centre), PB 29
Cameroon
+237 674 334 418
forwahtah@gmail.com
https://forwah2023.github.io/
forwah-amstrong-tah-98b961125
Forwah2023

Summary

Ph.D. physicist specializing in computational neuroscience, with 10+ years teaching secondary and high-school physics and 3+ years as a self-employed software developer. Skilled in mathematical modeling, numerical simulation, statistical analysis, machine learning, and full-stack Python development. Proven ability to design and deploy interactive desktop and web applications, present research at national conferences, and deliver engaging, data-driven instruction. Seeking roles in scientific research, data science, software engineering, or higher education.

Experience

2023–Present **Founder & Lead Developer**, *LMS (Self-Employed)*, Yaoundé, Cameroon

- Built **Texam**, a full-stack quiz-generation platform (Django REST Framework, Next.js), boosting exam-generation throughput by 200%.
- Developed **Classroom Insights**, automating Excel-based student analytics and cutting manual grading errors by 95%.
- Created Python GUIs including a **Wordle Clone** and **PdfResearch**, enhancing user engagement and enabling rapid multi-folder document searches.
- Designed interactive dashboards with Power BI and Dash to visualize Diversity Visa lottery entrant statistics for strategic, data-driven decision-making.

2013–Present **Secondary & High-School Physics Teacher**, *Ministry of Secondary Education (MINESEC)*, Yaoundé, Cameroon

- Design and deliver competency-based curricula for learners aged 10–19, incorporating digital simulations and interactive lesson assets.
- Develop assessments and pedagogy reports, track student performance, and mentor underperforming learners to boost outcomes.
- Lead project-based labs and public demonstrations, fostering critical thinking and scientific inquiry.

2018–2022 **Ph.D. Researcher, Biophysics**, *University of Yaoundé I*, Yaoundé, Cameroon

- Modeled single-cell neuronal dynamics; performed bifurcation analysis on ODE/PDE neuron models.
- Analyzed neural time-series data using Python, MATLAB, and numerical continuation tools.
- Authored two peer-reviewed publications and presented findings at CONFCAYS 2021.

Software Projects

Texam (2024–Present) Full-stack quiz-generation platform (Django REST Framework, Next.js) that automates exam workflows.

- Boosted question-generation throughput by 200%.
- Implemented JWT-based auth, dynamic templating, and PDF export(under development).
- Deployed backend in Docker and front end on Vercel with CI/CD.

texam-ui.vercel.app

DV-Lottery Statistics (2023) Interactive analytics dashboard (Django, Dash, Plotly) for Diversity Visa entrant data.

- Visualized selection probabilities and demographic trends.
- Optimized server-side caching for sub-second load times.

django-plotly-dv.onrender.com

Strong Book Reviews (2023)
Backend API (Django, Bootstrap) for community book reviews and ratings.
- Designed REST endpoints for reviews, comments, and user profiles.
- Enforced role-based permissions and input validation.

gee22strong.pythonanywhere.com

Power BI Capstone (2024)
Business-intelligence dashboard (Power BI, Excel) tracking KPIs and sales metrics.
- Built interactive reports on revenue, customer segmentation, and churn.
- Automated data ETL via Power Query for daily refreshes.

Classroom Insights (2023)
Teacher-analytics suite (Python, PyQt5, Pandas) for student-performance tracking.
- Computed descriptive statistics and flagged at-risk students, cutting manual grading errors by 95%.
- Persisted results in SQLite with login and historical retrieval.

sourceforge.net/projects/classsroom-insights

PdfResearch (2023)
Multithreaded document-search GUI (Python, PyQt5, Matplotlib) across .pdf, .docx, and .txt.
- Plotted term-frequency graphs and exportable CSV reports.
- Packaged cross-platform installer with update checks.

github.com/Forwah2023/PdfResearch

Education

2018–2022 **Ph.D. in Physics, Biophysics**, *University of Yaoundé I*, Yaoundé, Cameroon
- Thesis awarded highest grade (A+); specialized in theoretical and computational neuroscience.
- Focus: bifurcation analysis of diffusion-coupled neuron models.

2015–2018 **M.Sc. in Physics**, *University of Yaoundé I*, Yaoundé, Cameroon
- Soft matter physics and nonlinear wave analysis in excitable media.
- Graduated top of class (GPA 3.42); best overall student in Biophysics Research Group.

2009–2012 **B.Ed. in Physics**, *University of Bamenda*, Bamenda, Cameroon

Publications

2020 Tah, F. A., Tabi, C. B., & Kofané, T. C. "Hopf bifurcations on invariant manifolds of a modified FitzHugh-Nagumo model." *Nonlinear Dynamics*, 102(1), 311–327.

2021 Tah, F. A., Tabi, C. B., & Kofané, T. C. "Pattern formation in the FitzHugh-Nagumo neuron with diffusion relaxation." *Chaos, Solitons & Fractals*, 147, 110974.

Conferences

Aug 2021 CONFCAYS, Yaoundé, Cameroon. Podium: "Hopf bifurcations on invariant manifolds of a modified FitzHugh-Nagumo model."

Jul 2022 CERN HST Program, Geneva, Switzerland. Podium: "Better ways to teach particle detectors in the classroom."

Technical Skills

- Programming: Python (pandas, NumPy, scikit-learn), MATLAB, SQL, HTML5/CSS3/JavaScript(React), Django, PyQt5.
- Data Analysis & ML: statistical modeling, time-series analysis, predictive analytics.
- Tools & Workflow: Git/GitHub, Docker, LaTeX, Overleaf, VS Code.

Teaching & Research Skills

- Lesson & assessment planning, competency-based evaluation, digital pedagogy.
- Scientific writing, peer review, public speaking.

Languages

English C1 (advanced proficiency)
French C1 (advanced proficiency)

Hobbies

Fitness, nutrition, and competitive gaming