

SERGIUS JUSTUS CHESAMI NYAH

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Profile

Machine learning Researcher and Software Engineer working on Causal and multilingual NLP, LLMs, Medical AI, Geometric Deep Learning. and 3D representation learning

Education

University of Buea (UB)

M.Sc. in Computer Science

November 2026 – December 2028

Buea, Cameroon

University of Buea (UB)

B.S. in Computer Science

September 2022 – July 2025

Buea, Cameroon

Publications

- Nyah, S.J., Gopinath, K. (Harvard Medical School), Tem Buea, L. (2026). "Toward Accessible Cortical Parcellation: A Multi-View Projection Approach for Resource-Constrained Neuroimaging." **IEEE EMBC 2026**. Accepted. IEEE EMBS Travel Grant recipient.
- Khan, Z., Dogan, M., Okoh, I., Sadeghi, P., Shrestha, S., **Nyah, S.J.**, Mokhiamar, M.O., Ryan, M.J., Naous, T. (2026). "To Lie or Not to Lie? Investigating the Biased Spread of Global Lies by LLMs." **ACL 2026 Main Conference**. Accepted. **Senior Area Chair (SAC) Highlight Award**.
- Pigadas, N., Nyah, S.J., Laksanawisit, M. (2024). "Pseudo Rendering: A Novel Deep Learning Approach for 2D Cortical Mesh Segmentation." MIT CSAIL Summer Geometry Initiative (SGI) 2024 program report (not peer-reviewed); methodology later extended into the EMBC 2026 paper above.

Research Experience

University of Toronto, Jinesis AI Lab

ML Researcher

September 2026 – Present

Remote

- Engineered an end-to-end data-collection pipeline for the NHANES national health survey (CDC), crawling and normalizing **1,486 datasets and 49,863 variables** to extend a causal-dataset-retrieval research benchmark beyond its existing corpus, architected as a source-agnostic system reusable across additional data repositories.
- Designed and executed a manual annotation study to validate an automated paper-to-dataset linking system built on the OpenAlex API, reviewing 120 candidate pairs across 25 datasets to establish a **precision baseline (58%)** and surface concrete failure modes that informed a targeted improvement plan.
- Built and validated an **LLM-based causal question-generation pipeline** (OpenRouter, GPT-4o-mini), producing **201 research questions** grounded in verified scientific literature; delivered the full pipeline as a reviewed pull request to the lab's open-source research codebase.

École Polytechnique Fédérale de Lausanne, LiGHT Lab

Research Intern

June 2026 – August 2026

Lausanne, Switzerland (Remote)

- Selected into a research internship with a 1.2% acceptance rate at the Laboratory for Intelligent Global Health and Humanitarian Response Technologies.
- Built survival and severity prediction models for Ebola Virus Disease on a 147-patient Guinea Tier 3 cohort, benchmarked against Hartley et al. (2017) and the PREDS score of Jaspard et al. (2022).

MIT Computer Science & Artificial Intelligence Laboratory (CSAIL)

Research Fellow

July 2024 – November 2024

Boston, MA (Remote)

- Designed and implemented a Deep Learning pipeline for cortical mesh segmentation that projects 3D brain surfaces into multiple 2D views, trains CNNs on the projections with extensive data augmentation, and remaps predicted segmentations back onto the 3D mesh, reaching **70% accuracy** on unseen meshes while reducing manual intervention and error relative to traditional pipelines.
- Designed evaluation benchmarks for deformable 3D surface reconstruction using shape deviation, normal consistency, curvature preservation, and rendered appearance quality.
- Benchmarked visual SLAM systems (DROID-SLAM, SAGE-SLAM, Gaussian-SLAM) in C++ for real-time 3D reconstruction on clinical endoscopy data.
- Work extended into a first-author paper accepted at **IEEE EMBC 2026** (see Publications).

Fatima Institute for Global AI Research

ML Researcher (Stanford NLP Group + Georgia Tech)

September 2024 – June 2025

San Francisco, CA (Remote)

- Investigated robustness and evaluation of multilingual foundation models across languages and cultural contexts, focusing on factual reliability and alignment.
- Co-developed GlobalLies, a multilingual dataset generating **170,000+ adversarial misinformation-generation prompts** across 8 languages and 195 countries, quantifying disparities in LLM misinformation propagation by language and Human Development Index band.
- Designed pipelines for cross-lingual consistency scoring; curated the French and Cameroonian misinformation subset (237check, Cameroon Check) covering politics, healthcare, energy, and road safety.
- Co-authored “To Lie or Not to Lie?”, accepted to **ACL 2026 Main Conference** and recognized with a **Senior Area Chair (SAC) Highlight Award** (see Publications).

EleutherAI

July 2025 – August 2025

Research Intern

Remote

- Researched prompt optimisation strategies for reducing hallucination in large language models, evaluating prompting methods and failure modes across tasks and datasets.

Engineering Experience

Engineering for Change (E4C)

May 2025 – September 2025

AI Engineer, Hometeam Ventures

New York, NY (Remote)

- Built a retrieval and classification service over 8,000+ construction technology companies using Qdrant vector search, TF-IDF and GPT-4 behind a FastAPI backend, reaching over **85% classification accuracy**.
- Shipped a full-stack internal research platform in Next.js and FastAPI with an LLM conversational interface, cutting analyst research time by more than 70%.
- Owned the system end to end: data ingestion, embedding and indexing, API design, and the front end analysts used daily.

Huawei

August 2025 – February 2026

Intelligent Operations Engineer

Douala, Cameroon

- Engineered Bash monitoring pipelines across distributed telecom nodes, replacing reactive recovery with automated detection and reducing downtime by over 70%.
- Built a real-time fiber fault detection workflow that cut detection latency from hours to under 30 minutes.
- Ran cross-layer 2G to 4G capacity diagnostics over live network telemetry, surfacing 30+ bottlenecks for resource optimisation.

Personal Projects

CMesh – Cortical Mesh Segmentation Pipeline | *Python, PyTorch, trimesh*

2024 – Present

- Sole author. Open-source implementation of the multi-view projection pipeline built at MIT SGI, extended into the IEEE EMBC 2026 paper. github.com/sergyDwhiz/cmesh

Volunteering

Meta (Facebook)

July 2024

Technical Reviewer, AI Accelerator Program

Remote

- Evaluated 80+ early-stage African AI startups in generative AI, LLMs, and AR/VR against a rubric covering technical merit, scalability, and social impact; supported equitable selection of Meta-backed teams.

Open Dreams NGO

September 2022 – Present

Facilitator and Scholar

Buea, Cameroon

- Mentor students one-on-one through scholarship applications, essay writing, interview prep, and college selection; two mentees admitted to Hong Kong Baptist University and Ashesi University.

TiC Foundation

March 2023 – March 2025

Regional Assistant Coordinator

Buea, Cameroon

- Co-organized hackathons and trained 200+ secondary students across 10+ schools; led a team to 11th place nationally at the Summit competition.

Cohere for AI

September 2024 – December 2024

NLP Research Volunteer

Remote

- Developed and refined French-language prompts for Cohere for AI's Aya 8B Expanse model, improving multilingual understanding.

- Reviewed AI projects across Africa, evaluating technical rigor and community impact.

GDSC, University of Buea / KET Foundation / Futurize**2023 – Present***Core Team Member / Student Ambassador / Technical Mentor**Buea, Cameroon*

- Core team, Google Developer Student Clubs, University of Buea (2023 – 2024). Student Ambassador, KET Foundation (Jan 2024 – Present), supporting academic outcomes for secondary students nationally. Technical Mentor, Futurize (Nov 2025), supporting a team building an AI tool for farmers across Africa.

Awards

- **ACL 2026 Senior Area Chair Highlight Award**, for originality, technical quality, reproducibility and impact – July 2026
- **MIT Summer Geometry Initiative Fellow**, 1 of 32 globally and 2 from Africa, first from University of Buea – April 2024
- **Nominee, Africa's 100 Rising AI Developers Initiative**, Society for AI
- **Generative AI Hackathon Quarter-Finalist** (Team Lead, AfroVerb), A2SV, out of nearly 4,000 participants – August 2024
- **Presidential Grant Award for Academic Excellence**, Government of Cameroon – January 2025
- **IEEE EMBS Travel Grant**, EMBC 2026, Toronto – May 2026
- **ELLIS Manchester Scholarship** (full registration and accommodation), University of Manchester – April 2026
- **IEEE Computer Society WEIGD Student Support Fund Award** – June 2026
- **ISN School 2026 Participant**, International Society for Neurochemistry, Port Harcourt – June 2026
- **COSYNE Undergraduate Travel Grant** – December 2025
- **Shubhra Kar Linux Foundation Scholarship** – June 2024