

# Sebastian “Tom” Regpala

Bakersfield, CA

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## RESEARCH INTERESTS

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GPU Architecture, Computer Graphics, Hardware Acceleration, Adversarial Machine Learning

## EDUCATION

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**California State University, Bakersfield**, Bakersfield, CA, United States

Bachelor of Science in Computer Engineering

Aug 2021 — May 2025

Cumulative GPA: 3.52/4.00

## RESEARCH EXPERIENCE

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### UC Merced CV PATH Summer Experience 2025

*Research Assistant*

Bakersfield, CA

May 2025 — Present

- Conducted an extensive deep learning security survey with a focus on attack and defense mechanisms for Transformer models and compiled 46 recent publications into a review paper for submission.
- Developed a novel defense mechanism against side-channel attacks on Transformer models by utilizing GPU kernel selection randomization and optimization.
- Implemented existing side-channel attack methodology on various Transformer models for vulnerability analysis.
- Expressed findings through a review paper, research paper, and poster symposium at the end of the program.

### UC Merced CV PATH Summer Experience 2024

*Research Assistant*

Bakersfield, CA

May 2024 — Sep 2024

- Built a dataset by querying government repositories including the US Census Bureau, CDC, and California Air Resources Board.
- Ran statistical analysis through programming scripts in the R programming language, processing data for correlation, geospatial, and multilinear regression analysis.
- Expressed findings through a research paper, poster symposium, computer program, and animated data visualizations.

## PROJECTS

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### Integrating LSTM RNNs into Traditional Integer GARCH Models for Influenza Hospitalizations Forecasting

Bakersfield, CA

*CSUB - Undergraduate Research Assistant*

Aug 2024 — May 2025

- Constructed an LSTM RNN model trained on public health data with an emphasis on utilizing GPU acceleration to optimize performance.
- Integrated the model into traditional integer GARCH models for enhancing influenza hospitalizations forecasting.
- Queried data from publicly available repositories, with an emphasis on influenza hospitalizations and environmental factors.

## PUBLICATIONS

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T. Regpala, J. Ramos, and A. Malek, “An Introductory Survey of Transformers and Adversarial Machine Learning,” submitted for publication, 2025.

## WORK EXPERIENCE

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### CSUB - Information Technology Services

*Information Technology Assistant - Student Lead*

Fall 2021 — July 2025

- Provided Tier 1 and Tier 2 support for diverse tech needs including, but not limited to: operating systems, VoIP telephone systems, and enterprise applications, while ensuring seamless network, domain, and online campus account operations.
- Opened and resolved over 30+ weekly tickets via ServiceNow to support the entire CSU campus; serving VIPs, staff, faculty, and students.
- Trained, mentored, and led a high-performing team of 20 IT student hires in adhering to campus procedures and IT duties.
- Implemented and enforced IT security protocols, and engaged in identifying and mitigating phishing attempts in campus-wide email communications.

- Maintained and managed group policies with Active Directory (AD), ensuring compliance with security protocols and streamline access control across the campus infrastructure.

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## AWARDS

### CSUB NSME Dean's List

Spring 2022 — Spring 2025

Maintained a GPA higher than 3.25 as a full-time student for 6 consecutive semesters

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## OTHER EXPERIENCES

**Summer Research in Artificial Intelligence: From Secure to Local LLMs**    California State University, Bakersfield  
*Seminar Speaker*    Nov 2025

- Presented a seminar-style talk to CSUB faculty and students on topics such as LLM development, fine-tuning, and adversarial machine learning.
- Explored ethical and secure AI practices, including responsible, privacy-aware model use and data governance considerations.
- Presented GPU benchmarks evaluating various defense mechanisms against deep learning side-channel attacks.

### Kaibigan - Filipino American Student Organization

California State University, Bakersfield

*Member*

Aug 2023 — May 2025

- Promoted enrichment of Filipino heritage and history through community culture events.
- Explored Filipino-American identity through guest lecturers during club activities.
- Helped raise funds for the organization and the Filipino Excellence Scholarship through local sponsorships.

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## SKILLS

- **Programming:** Python, PyTorch, C/C++, C#, R, MATLAB, MIPS, ARM, CUDA, VHDL
- **Software:** RStudio, VIM, Altera Quartus, KiCAD, Visual Studio Code, AutoCAD, Microsoft 365, AWS, NI LabVIEW, Linux (Arch & Ubuntu)

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## REFERENCES

### Anjana Yatawara, Ph.D.

*Department of Mathematics*

*California State University, Bakersfield*

E-mail: ayatawara@csub.edu

Scholar Profiles: CSUB - Mathematics Full-Time Faculty — Google Scholar — LinkedIn

### Amin Malekmohammadi, Ph.D.

*Department of Computer and Electrical Engineering*

*California State University, Bakersfield*

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Scholar Profiles: Faculty Page — Google Scholar — LinkedIn

### Ian Barnette, Service Center Lead

*Information Technology Services*

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