

# Kiana Kiashemshaki – Project Portfolio

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## Introduction

I am a passionate and detail-oriented computer scientist specializing in Cybersecurity.

With a strong academic foundation and hands-on experience in web development, data science, and cybersecurity tools, I aim to leverage my skills to develop innovative solutions that enhance security and user experience. My portfolio showcases my journey through various academic, professional, and personal projects.

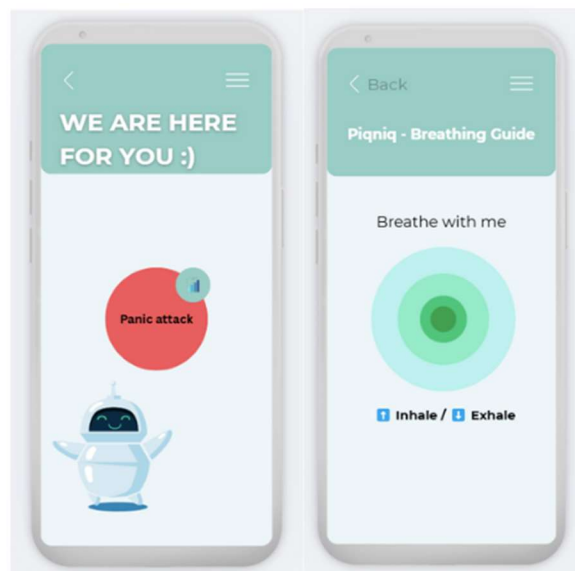
## Projects

### 1 - Title: Piqniq – Emergency Support for Panic Attacks ( 2nd Place Winner – BGSU ACM Hackathon)

**Skills:** TypeScript, CSS, JavaScript, HTML, Google Maps API.

**Description:** Developed a mobile web app to assist individuals during panic attacks. With one tap, users can send real-time alerts and location to emergency contacts. The app features a calming interface, virtual assistant, and breathing guide to reduce stress while help arrives.

**Link:** [Piqniq](#)

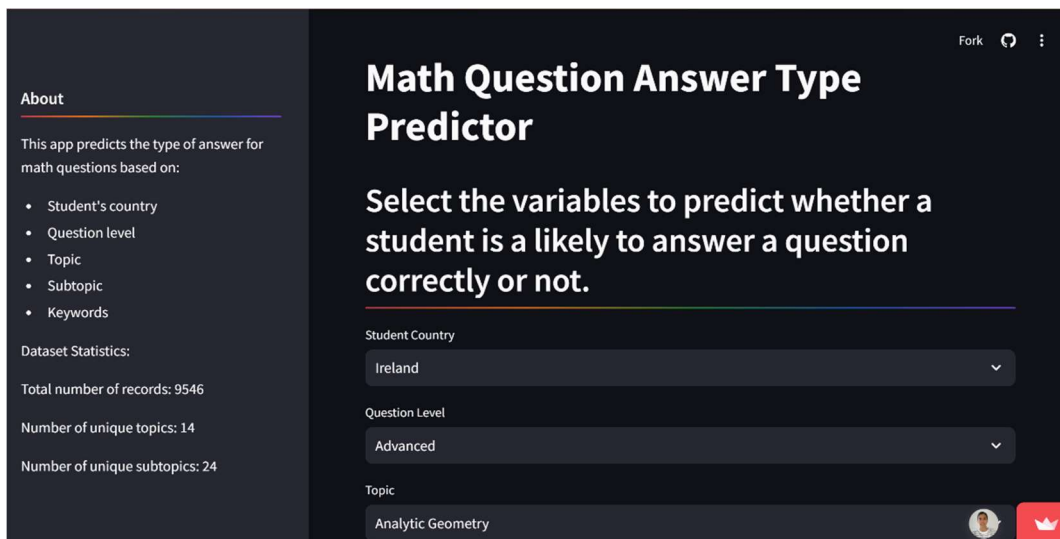


## 2 - Title: Comprehensive Analysis of Factors Affecting Mathematics Learning in Higher Education

**Skills:** Python, Pandas, NumPy, scikit-learn, Matplotlib, Statistical Analysis.

**Description:** Conducted an in-depth analysis of factors influencing mathematics learning outcomes in higher education. Utilized statistical testing and machine learning techniques to predict performance trends and cluster similar behaviors. This project provided actionable insights into enhancing educational strategies for students.

**Link:** [Math App](#)



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## 3- Title: Developing Hands-On Modules on Digital Forensics

**Skills:** Autopsy, Kali Linux, FTK Imager, Volatility

**Description:** Designed beginner-friendly educational modules focused on digital forensics. Topics covered hard disk forensics, memory forensics, and Android phone investigations. The modules aimed to make complex forensic concepts accessible while encouraging practical learning.

**Link:** [Digital Forensics](#)

**M.S in CS Kiana Kiashemshaki**  
Supervised by Dr. Roy

- Preparing hands-on projects for Digital Forensics courses is challenging because it demands realistic artifacts reflecting current technologies and scenarios also it takes a lot of time.
- Project Goal: Provide realistic and educational hands-on modules involving Windows computers and Android phone forensic training.
- Existing CTF artifacts from Magnet Axiom are valuable but not beginner-friendly.
- Enhancing these artifacts with guided questions and instructions can make them suitable for new learners.

Tool	Percentage
Autopsy	29.4%
Volatility Framework	17.6%
FTK Imager	11.8%
Registry Explorer	11.8%
Kali Linux	11.8%
ExitTool	11.8%
OpenStego	5.9%

- **Analyzing the CTF artifacts:** Got relevant CTF challenges from public sources e.g., Magnet Axiom 2020 CTF.
- **Breaking down the hard CTF problem into multiple easier problems:** For each smaller challenge prepared detailed guidelines for a beginner student.
- **Integration:** Develop one project out of each smaller challenge and integrated these together as a final project.
- **Testing:** Ensured everything is working accurately and matches the intended outcomes.
- **Keys for the future instructor:** Provide the solutions for each problem to assist future instructors.

- Created four hands-on forensic modules focusing on Hard Disk forensics, Memory forensics and Android forensics.

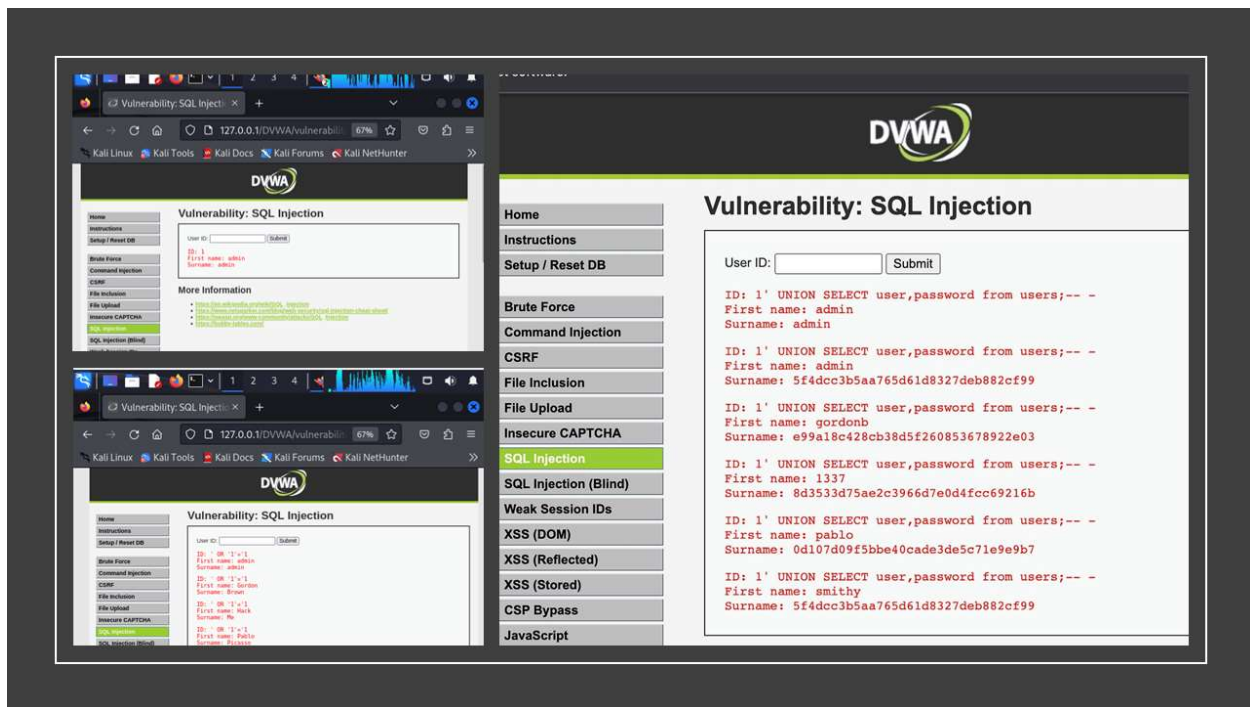
- Develop realistic Windows-based forensic artifacts from scratch with EWF techniques to reduce storage size.

Data Type	Percentage
Timeline Analysis	11.1%
Android Phone Analysis	11.1%
Hard Disk Analysis	11.1%
Memory Analysis	11.1%
Registry Analysis	11.1%
Command History	11.1%
Google string search	11.1%
Browser history	11.1%
Network Activity	11.1%
Timeline Analysis	11.1%

I would like to express my gratitude to my supervisor, Dr. Roy, for his invaluable guidance, support, and encouragement throughout this project.



**Description:** Conducted a comprehensive vulnerability assessment on the DVWA focusing on SQL injection techniques. Tested various payloads to manipulate SQL queries and reveal sensitive data from the database. Explored basic and advanced injection methods, uncovering user information, password hashes, and metadata. This project sharpened my skills in web application security, SQL injection exploitation, and ethical hacking.



## 5 - Title: Water and Soil Analysis Visualization

**Skills:** HTML, CSS, JavaScript, D3.js, Bootstrap.

**Description:** Developed interactive and dynamic visualizations for field data related to water and soil behaviors. The project allowed scientists and researchers to explore and analyze experimental data in a visually engaging and intuitive manner.

**Link:** [Visualization](#)

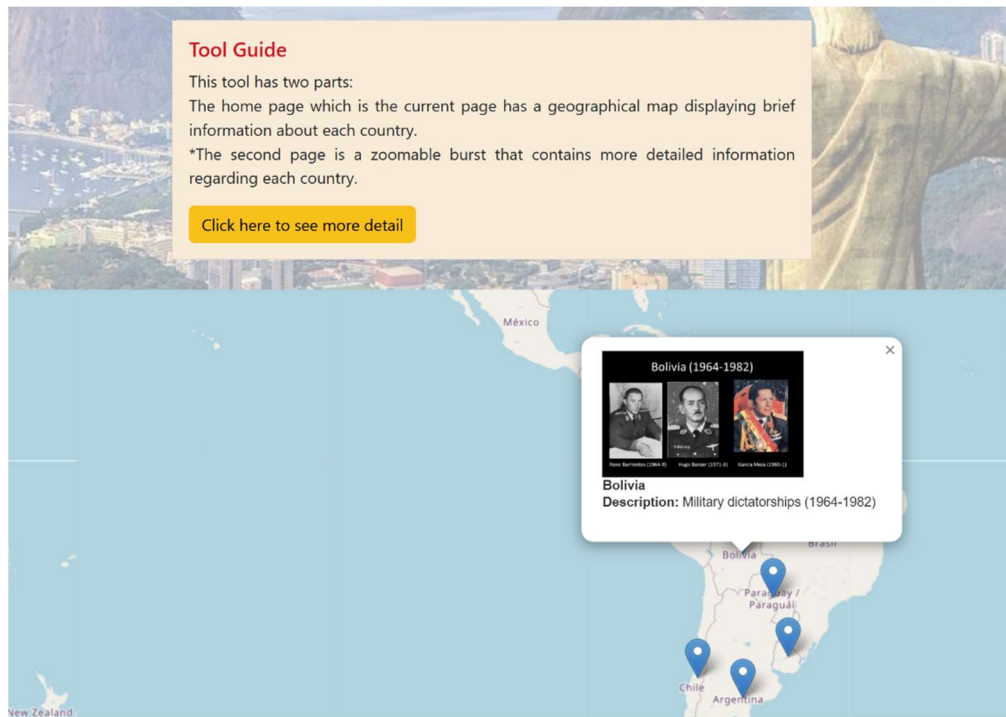


## 6 - Title: South America Country Analysis

**Skills:** HTML, CSS, JavaScript, D3.js, Bootstrap.

**Description:** Created a data visualization tool to explore socio-economic and geographic datasets from 12 South American countries. The project utilized interactive charts and maps to reveal patterns and regional insights effectively.

**Link:** [Visualization](#)



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## Keyword Search

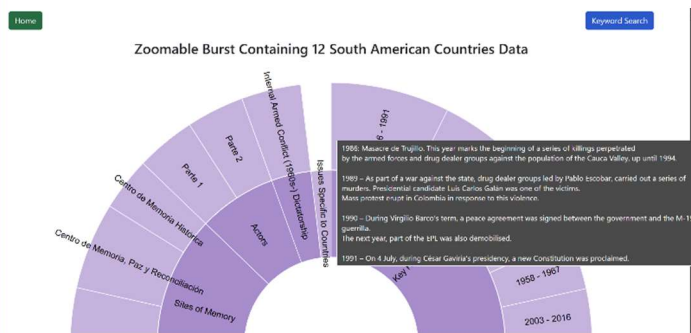
Please make a country selection to see detailed information

Select a country:  
Argentina

Enter a keyword

Search

Category	Description	Year	Data
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## 7 - Title: Face Detection Application

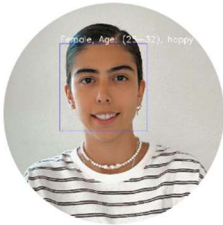
**Skills:** Python, Flask, OpenCV, MTCNN.

**Description:** Built a user-friendly web application that enables face detection in uploaded images. Leveraged the MTCNN algorithm for precise recognition, ensuring a seamless user experience through an intuitive interface.

**Link:** [Repository access](#)



## Project Description



Hi, I'm Kiana Kiashemshaki. This project detects facial emotions using the FER library in Python, integrated with Flask and OpenCV. Upload an image, and it will highlight faces and display the detected emotions (like smiles), along with predicted age and gender. This project showcases a simple yet effective implementation of facial detection, emotion recognition, and age/gender estimation, which is a good example of leveraging deep learning for real-world applications.

## Upload Image

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