

# Frank Bahle Ntakirutimana

Aspiring Computer Scientist • Technical Proficiency & Creative Vision



## About me

I am a dedicated final year BSc Computer Science student at the University of Johannesburg, driven by a passion for innovation, creativity, and problem-solving. I am continuously expanding my technical expertise and actively seek opportunities to contribute meaningfully to the evolving world of technology. My long-term goal is to make a positive impact through innovative solutions, thoughtful leadership, and a relentless drive for excellence.

## Outline

### Summary

### Education (BSc Computer Science and UJenius)

- Degree
- Top Achiever

### Short Course (Artificial Intelligence in the 4IR)

### Internship (Grit Lab Africa)

### Academic Advisor / Mentor

### Projects (Programs)

- Banking Application (ASP.NET Web Forms)
- Daily Deli - E-Commerce Food Platform
- Unity Simulated Environment (3D Lab Simulation)

### Programming Languages and Frameworks

- Languages
- Frameworks

### References

## Personal

## SUMMARY

- I am a Bsc Computer Science and Informatics final year student at the University of Johannesburg passionate about app and web development, the fast-growing world of artificial intelligence and algorithmic mathematics.
- My experience at the Johannesburg Business School's GRIT Lab Africa (internship) working hand in hand with Prof. Ade-Ibijola (Best AI Professor in Africa) equipped me with practical, real-world development exposure and strengthened my ability to build solutions using modern programming principles. I also completed the Programming GRIT Bootcamp, where I developed core skills in algorithms, data structure and structured problem-solving.
- I am a proud UJenius Club Member, recognised for outstanding academic achievement and a commitment to excellence with my Degree.
- As an Academic Advisor, I mentor first-year students, enhancing my communication, leadership, and support skills. Combining technical ability, creativity, and resilience, I am driven to contribute meaningful work to innovative teams and high-impact projects.

## EDUCATION (BSC COMPUTER SCIENCE AND UJGENIUS)

- **(DEGREE)** BSc Computer Science degree at the University of Johannesburg, offered through the prestigious Academy of Computer Science and Software Engineering (ACSSE), provides a comprehensive foundation in advanced computing, software development, system design, and mathematical problem-solving. The programme is internationally recognised and accredited by the BCS: The Chartered Institute for IT, confirming its global quality and relevance. Through this degree, I am equipped with the skills needed to pursue roles such as Systems Analyst, Network Manager, Programmer, Web Developer, Software Engineer, Database Administrator, IT Manager, Researcher, and Computer Graphics Designer. As a third year student my studies have strengthened my analytical thinking, programming competency, and technical versatility, and I am proud to have achieved ten distinctions to date, reflecting my dedication and academic excellence.
  - **(Top achiever)** UJenius Club is a prestigious Vice-Chancellor initiative that recognises undergraduate students who achieve exceptional academic excellence. As a member, I form part of the top-performing students at the University of Johannesburg, gaining access to exclusive opportunities for intellectual and professional growth. The club brings together high-achieving students from diverse disciplines to encourage interdisciplinary collaboration, leadership development, and advanced academic engagement. Membership also provides privileged access to resources, networking opportunities, and connections across the broader UJ community.
- Awards allocated: UJENIUS – Academic Top 1% (2025)

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**Languages:** Tswana, English  
**Age:** 21 **Gender:** Male  
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## SHORT COURSE (ARTIFICIAL INTELLIGENCE IN THE 4IR)

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- Through the Artificial Intelligence in the Fourth Industrial Revolution (4IR) short course at the University of Johannesburg, I developed a solid understanding of AI concepts, its applications across different sectors, and its growing influence on society and the future of work. The course deepened my awareness of how algorithms, automation, and data-driven systems shape modern life and the evolving digital economy. I explored the disruptive effects of AI on industries, the changing job landscape, and the importance of adapting to rapid technological shifts. My engagement with the programme strengthened my ability to reflect critically on technology and its role in shaping the world, and I successfully completed the course with a final result of 93.78%, demonstrating my commitment and strong grasp of the material.

## INTERSHIP (GRIT LAB AFRICA )

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- After completing the Grit La Africa bootcamp with a distinction, I was selected to join a team of developers where I collaborated on large-scale, real-world software projects. This experience strengthened my technical problem-solving, improved my understanding of how applications are architected and deployed, and broadened my skills in app and web development within a professional setting.
- My experience with GRIT Lab Africa placed me in an industry-aligned, hands-on learning environment built for the demands of the Fourth Industrial Revolution. Through the intensive Programming GRIT Bootcamp, I developed solid foundations in programming, algorithms, and data structures while gaining practical experience with modern programming languages and frameworks. I worked with tools used in real development environments and applied them to build functional web applications, mobile apps, and basic game prototypes. The programme introduced me to essential 4IR skills including data science concepts, machine learning fundamentals, and full-stack development principles.

## ACADEMIC ADVISOR / MENTOR

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- As an Academic Advisor, I provided guidance and mentorship to first-year Computer Science students, helping them transition smoothly into university life through both academic and personal support. I assisted students with course selection, academic planning, and understanding university policies while connecting them to essential UJ resources such as tutoring, counselling, and career development services. I played an active role in helping students build effective study strategies, time management skills, and organisational habits to balance their academic workload and personal commitments.
- Through regular check-ins and monitoring their progress, I identified challenges early and offered practical solutions or referrals for additional support. I also facilitated group study sessions, encouraged collaborative learning, and supported students in developing confidence, resilience, and a growth mindset. Additionally, I guided students on using UJ's digital platforms and external learning tools to enhance their academic performance and overall university experience.

## PROJECTS (PROGRAMS)

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- **(Banking Application (ASP.NET Web Forms))** I developed a fully functional Banking Application using ASP.NET Web Forms, MySQL, and C, simulating real-world banking operations. The system allows users to manage customers, accounts, and transactions through

a secure, user-friendly interface. We implemented CRUD operations for customer profiles, account creation and updates, and complete transaction handling (deposits, withdrawals, and account history tracking). This project strengthened my backend development skills, improved my understanding of database-driven applications, and helped me apply object-oriented programming principles in a practical, real-world scenario.

**Git Hub (Repo Link):** [https://github.com/FrankBahle/Banking\\_WEB\\_APP](https://github.com/FrankBahle/Banking_WEB_APP)

- **(Daily Deli – E-Commerce Food Platform (B2C Web Application))**  
My team and I built Daily Deli, a comprehensive e-commerce platform designed to blend grocery shopping with ready-made meals, dietary filtering, and personalised recommendations. The system supports user registration, profile-based dietary preferences (vegetarian/vegan), recipe suggestions, weekly meal planning, loyalty rewards, and a community-driven blog platform. Administrators can manage inventory, verify blogs, track orders, and adjust recipes or discounts.

Key features include nutritional information integration, allergen alerts, dynamic meal planning, loyalty points, curated recipe cross-selling, and sustainable local product sourcing. This project improved my skills in full-stack development, UX planning, data modelling, and building scalable, user-centered web systems.

**Application Demonstration (YouTube Link):** <https://youtu.be/caIMA99kHh0>

**Git Hub (Repo Link):** [https://github.com/FrankBahle/Daily\\_Deli\\_E-Commerce](https://github.com/FrankBahle/Daily_Deli_E-Commerce)

**Git Hub (Repo Link API):** [https://github.com/FrankBahle/DailyDeli\\_Service\\_API](https://github.com/FrankBahle/DailyDeli_Service_API)

- **(Unity Simulated Environment (3D Lab Simulation))** As part of my involvement with Grit Lab Africa, I was tasked with designing and building a 3D simulated environment of our lab using Unity. The application recreates the physical layout, equipment, and interactive elements of the actual workspace, allowing users to navigate the lab virtually. I incorporated lighting, physics, material textures, and immersive object interactions to produce a realistic and engaging simulation.

This project strengthened my skills in Unity development, environment modelling, scene management, asset integration, and user experience design, while exposing me to industry concepts such as virtual prototyping and digital twins.

**Simulation Demonstration (YouTube Link):** [https://youtu.be/vp4qeA5\\_fvk](https://youtu.be/vp4qeA5_fvk)

## PROGRAMMING LANGUAGES AND FRAMEWORKS

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- **(Languages)** I have experience working with several programming languages, including **Java, C++, C, JavaScript, Visual Basic, SQL, and LaTeX** which I have used across academic projects, bootcamp training, and personal development work.
- **(Frame works)** My development toolkit includes frameworks and technologies such as **JavaFX, React Native, ASP.NET, Bootstrap/CSS3, HTML5, and the Unity Engine**, allowing me to build applications ranging from web and mobile systems to interactive 3D environments.

## REFERENCES

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