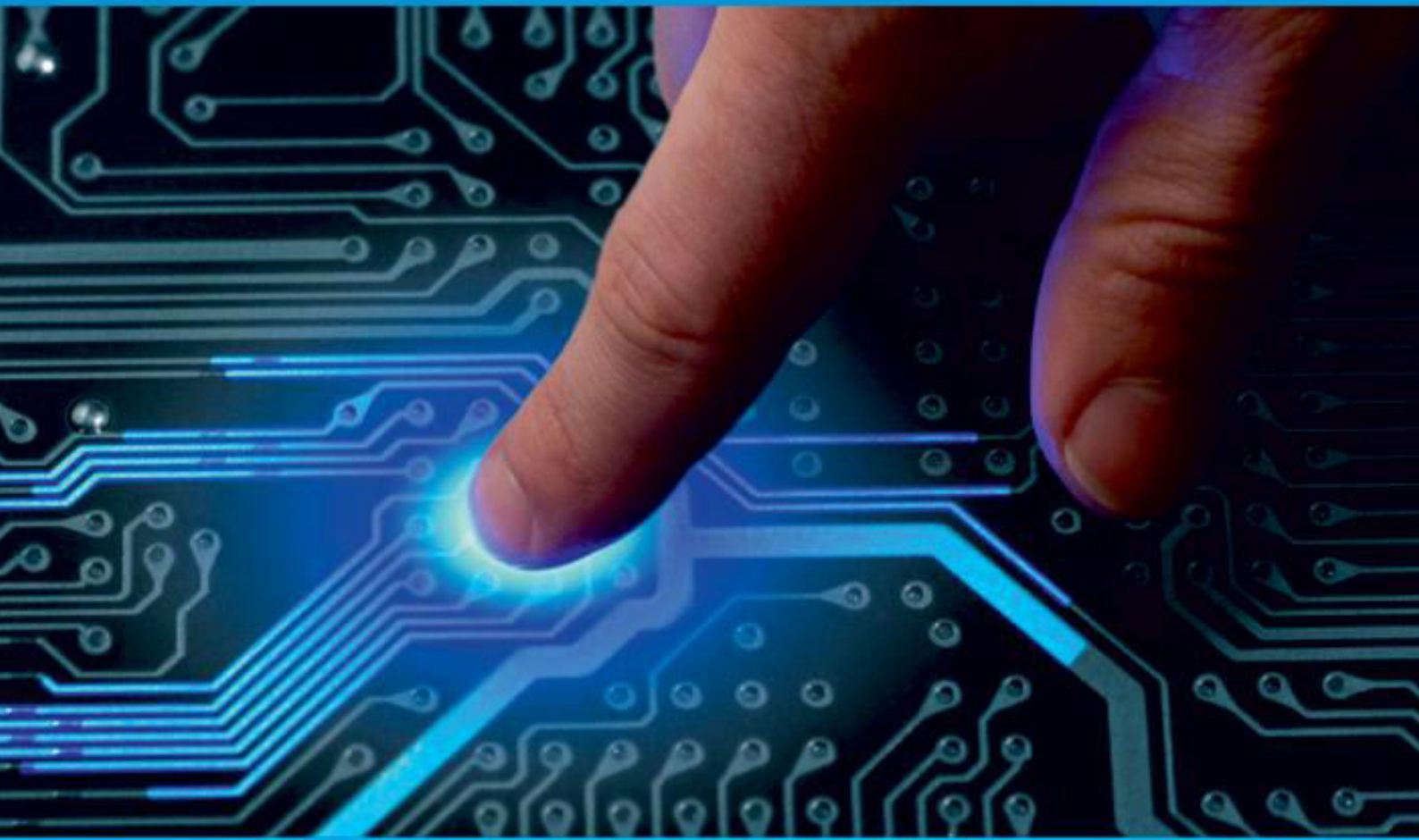




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ijircce@gmail.com



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# Encrypted AI Banking Chatbot

Atharva. G. Galwade, Shlok. D. Gaikwad, Omkar. S. Ghanawat, Yatharth. J. Kadam,  
V. C. Sanap

Student, Dept. of Computer Engineering, AISSMS Polytechnic, Pune, Maharashtra, India

Lecturer, Dept. of Computer Engineering, AISSMS Polytechnic, Pune, Maharashtra, India

**ABSTRACT:** When we speak of results that can be designed, developed, and enforced to break a determined problem in a specific sphere, mortal intelligence shows that it cannot be kept within regular bounds. In addition, it constantly manages to produce innovative rudiments that increase effectiveness, connection, and abstraction, with the debit of adding the overall underpinning complexity. As technology advanced and time passed, in every system there was a visible need to automate homemade, repetitious, and mundane tasks to help save time and let humans concentrate on more important effects. A practical illustration of such a system is the banking system. In this paper, our end is to present how Artificial Intelligence (AI) helps this field through the use of chatbots. In this sense, we present and assay five exemplifications of similar operations that are formerly used in the transnational banking system, pressing the main benefits they bring. Eventually, we present some conclusions regarding the chatbot systems analysed, admitting that the future will decreasingly belong to IT operations of this kind.

**KEYWORDS:** YOLO Algorithm, NLP algorithm, Python, Android studio, Python API flask.

## I. INTRODUCTION

Banking is a growing a topic with far reaching consequences in the government, corporate organizations, finance industry, In Today's world high dependency on internet technology has enjoyed increased banking transactions but many people ae still not aware of banking transaction. As banking transactions become a widespread mode of payment, focus has been given to recent computational methodologies to handle the information and transaction. There are many banking solutions and software which provides information, service and security in businesses such as banking application credit card, retail, e-commerce, insurance, and industries. Machine Learning and Artificial Intelligences is one notable and popular methods used in Banking chat bot. It is impossible to be sheer certain about the true intention and rightfulness behind an application or transaction. Available data using mathematical algorithms to seek out possible data about banking from the is the best effective option.

Ever found yourself stuck in a never-ending loop of “press 1 for this” and “press 2 for that” when trying to reach your bank? Annoying, isn't it? Now, flip the script and imagine you are on the other end—your customers are the ones stuck in that loop. Not a great look for your brand, huh? Enter AI chatbots, the game-changing technology that is revolutionizing customer experiences in the banking sector.

We are not just in a digital age; we are in a “remote everything” age where the click of a button or a simple voice command can do wonders in banking sectors. Forget about the days of 10-minute hold times; we are down to resolving customer queries in a mere 4 minutes because of advanced AI chatbots.

It is not just the millennials engaging away with Siri; today's customers across demographics are leaning into voice tech. Products like Amazon's Alexa and Google's Home Assistant are not just novelties—they are shaping expectations for what customer support should be. Voice bots and IVRs (Interactive Voice Responses) are swiftly moving from being 'nice-to-haves' to 'must- haves' in the banking industry. But it is not just about meeting the status, it's about future-proofing your business. By integrating conversational banking chatbots, you are laying down the building blocks for next-gen customer engagement.

Banking chatbots as your customer's personal financial assistant, on standby 24/7. Fueled by artificial intelligence (AI) and natural language processing (NLP), these chatbots are far more than glorified search engines. They are integrated into your digital platforms—be it websites or mobile apps—to provide real-time, personalized customer support. They do not just “understand” customer queries; they interpret the nuance of human language with help of NLP.

## II. RELATED WORK

The integration of Artificial Intelligence (AI) in the banking sector has converted client service and functional effectiveness. Chatbots, using Natural Language Processing (NLP) and Machine literacy (ML) technologies, have surfaced as a prominent AI operation in banking, offering 24/7 client support, substantiated product recommendations, and transactional support (Agarwal & Mittal, 2020; Saini et al., 2019). These AI- powered chatbots have proven to be cost-effective, perfecting client experience and furnishing precious data perceptivity for substantiated marketing (Jain & Kumar, 2021). still, challenges related to data sequestration, lack of emotional intelligence, and system integration remain significant enterprises (Srivastava & Sagar, 2020). unborn trends indicate the integration of conversational AI and voice sidekicks to enhance chatbot capabilities and offer substantiated fiscal planning services (Saini et al., 2019; Agarwal & Mittal, 2020). Addressing ethical and nonsupervisory considerations is pivotal for icing translucency and responsibility in AI banking chatbots (Srivastava & Sagar, 2020).



## III.METHODOLOGY

This section describes the complete methodology of working of AI Banking chatbot.

There are 3 steps in this system:

- Sign up page –  
Enter the valid credentials.
- Log in page –  
Enter the valid credentials, that the user enters at the registration page.
- Home page –  
The main chat page of the application

The AI Banking chatbot helps the user to get the information about the bank. The first page is of sign up, here the user has to register the id first. To register the id the user has to enter the valid credentials. Second page is of Log in, after the registration, the user can Log in in the application by entering the valid credentials we enter while registration, and at last user is directed to the home page. At the home page the chatbot helps the user to get the information about the bank. It provides the information to the user about the documents needed for opening account, closing account, filling money through slips, about loan and financial help, etc. Here the user is able to ask the chatbot all the information about the bank. The chatbot is available for 24/7, so the user can get the banking help easily anytime. The AI Banking chatbot is easy to used, the user only have to enter what he needs and the output is generated from the database of the system.

## IV.PROPOSED METHODOLOGY

This section describes the complete proposed methodology of working of AI Banking chatbot.

There are 3 steps in this system:

- Sign up page
- Log in page
- Home page

The AI Banking chatbot helps the user to get the information about the bank. The first page is of sign up, here the user has to register the id first. Second page is of Log in, after the registration, the user can Log in in the application and at last user

is directed to the home page. At the home page the chatbot helps the user to get the information about the bank. It provides the information to the user about the documents needed for opening account, closing account, filling money through slips, about loan and financial help, etc.

### V. SIMULATION RESULTS

In the process of developing our project on AI Banking Chatbot, we diligently ensured that the model was trained using a collection of queries in order to get the valid information to the user about the bank. Furthermore, we integrated a range of images showcasing individuals with Chatbot, with the aim of enhancing the application. It provides the basic details of banks and their services through the chats. It also provides the balance enquires and the bank account basic detail.

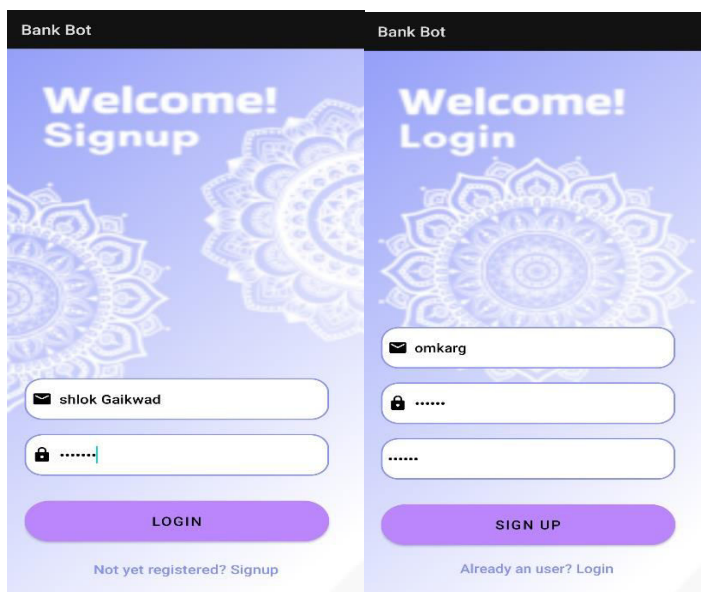


FIG. SIGN UP PAGE

FIG. LOG IN PAGE

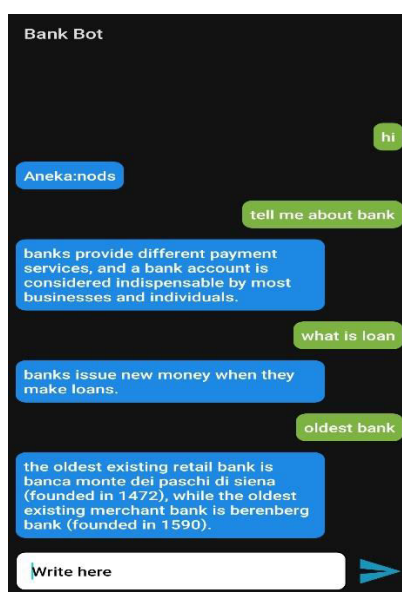


FIG. HOME PAGE



## **VI. CONCLUSION AND FUTURE WORK**

The perpetration of an AI banking chatbot offers a transformative result to enhance client engagement, streamline banking processes, and ameliorate functional effectiveness. By using advanced machine literacy and NLP technologies, the chatbot can give substantiated and effective client service around the timepiece, addressing a wide range of inquiries and tasks in a timely and accurate manner. likewise, the integration of robust security measures ensures the protection of sensitive client data, fostering trust and confidence in the digital banking experience. As the chatbot continues to learn and evolve through nonstop feedback and updates, it has the implicit to come a necessary tool for banks, driving client satisfaction, reducing costs, and situating the bank at the van of technological invention in the fiscal assiduity.

The future of AI-powered banking chatbots promises to be transformative, redefining the way customers interact with financial institutions. As technology continues to advance, these chatbots will evolve from simple query-resolving tools to sophisticated financial advisors capable of personalized financial planning and real-time transactional assistance. Leveraging advanced machine learning algorithms and natural language processing capabilities, these chatbots will provide customers with instant, 24/7 support, improving customer satisfaction and reducing operational costs for banks. Moreover, with the integration of biometric authentication and predictive analytics, these chatbots will offer enhanced security measures, ensuring the protection of sensitive financial information. Furthermore, as AI continues to learn from vast amounts of data, these chatbots will become increasingly adept at understanding and anticipating customer needs, enabling them to offer tailored product recommendations and financial advice. Ultimately, the future of AI in banking chatbots is poised to revolutionize the banking industry, creating a more efficient, personalized, and secure banking experience for customers worldwide.

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