SANJAY SINGH

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EDUCATION

CHAUDHARY DEVI LAL UNIVERSITY, SIRSA (INDIA)

Doctor of Philosophy (PhD), Department of Computer Science and Engineering in October 2022 for the thesis titled "*On Development of a Framework for a Mobile Based Intelligent Tutoring System*".

KURUKSHETRA UNIVERSITY, KURUKSHETRA (INDIA)

- Master of Computer Applications (MCA), Department of Computer Science and Applications in July 2017 after securing **70.71%** marks.
- Master of Science (MSc) in Computer Science, Department of Computer Science and Applications in July 2016 after securing **71.28%** marks.

CHAUDHARY DEVI LAL UNIVERSITY, SIRSA (INDIA)

Bachelor of Science (Computer Science, Mathematics and Physics), Government National College in June 2014 after securing **80.72%** marks.

CENTRAL BOARD OF SECONDARY EDUCATION, INDIA

Class 10th in 2009 with **81.6%** marks, and Class 12th (Mathematics, Physics and Chemistry) in 2011 with **81.6%** marks again.

OTHER QUALIFICATIONS

Qualified UGC NET with JRF, GATE, JEST, HTET.

SKILLS

- Programming Languages: Python, Java, JavaScript, C, C++, PHP, SQL.
- Web Technologies and Databases: HTML, CSS, MySQL, PostgreSQL, MongoDB.
- Frameworks and Libraries: ReactJS, NextJS, Django, Bootstrap, Tailwind.
- Development Tools: Git/GitHub, Unity 3D.

PUBLICATIONS

Singh, S., & Singh, V. (2022). An Architecture of Domain Independent and Extensible Intelligent Tutoring System based on Concept Dependencies and Subject Paths. *International Journal of Advanced Computer Science and Applications*, *13*(5). – **Web of Science & SCOPUS**

Singh, S., & Singh, V. (2022). A Graph Based Approach to Learner Profiling in an Intelligent Tutoring System. *Indian Journal of Computer Science and Engineering*, 13(3). – **SCOPUS**

Singh, S., & Singh, V. (2022). Mapping User-Submitted Short Text Questions to Subjects of Study: A Multinomial Classification Approach. In H. Sharma, M. K. Gupta, G. S. Tomar, & W. Lipo (Eds.), *Communication and Intelligent Systems*. Springer Nature. https://doi.org/10.1007/978-981-19-2130-8_65 – **SCOPUS**

Singh, S., & Singh, V. (2020). Developments In Intelligent Tutoring Systems 2010-2020. *Journal Of Critical Reviews*, *7*(09), 2019–2023. http://jcreview.com/Issue.Php?Volume=Volume 7 &Issue=Issue-9&Year=2020 – **SCOPUS**

Singh, S., & Singh, V. (2021). Learner Profiling in Intelligent Tutoring Systems: A New Perspective. *GLIMPSES*, *10*(2), 176–186 – **REFEREED INTERNATIONAL JOURNAL**

COURSES AND CERTIFICATIONS

1. Machine Learning, an online course authorised by Stanford University and offered through Coursera.
2. Indian Statistical Institute , Kolkata – Weekend Online Program on Statistical Machine Learning.
3. Google Digital Garage – The Fundamentals of Digital Marketing Certification Exam.
4. Harvard Medical School – Mental Health Effects of the COVID-19 Pandemic Certificate.
5. IEEE Delhi Section & Industry Institute Partnership Cell (IIPC), AICTE – Webinar on Disruptive Technologies & Evolving Global Society.
6. Udemy – Django Basics Certificate

PROJECTS

1. CAPTAIN

NextJS, ReactJS, PostgreSQL, React-Native, EXPO.
Computer Assisted Personal Tutor with Adaptive INstruction (CAPTAIN) is an intelligent tutoring system that can be used to intelligently teach almost any subject, while adapting the course to the learner. The architecture is made in such a way that no piece of knowledge needs to repeat more than once, and the system is domain independent and extensible even after deployment.

2. SHADES: COMBAT MILITIA

Unity3D, C#, Enemy AI, Realtime Multiplayer, In-App-Purchases, Google Play Services.
A 3D top-down shooter game for the Android platform. This game was an instant hit with over 1 million downloads and an average rating of 4.5/5 stars. It offers Single-Player (against A.I. bots), Local-Multiplayer (with/against nearby players) and Online-Multiplayer modes of gameplay featuring various types of competitive and cooperative matches.

3. UNITY LUDO FRAMEWORK

Unity3D, C#.
A working Unity project for creating any type of Ludo game. Currently setup as a mobile-based 2D Ludo game with working AI. Can be easily extended to a 3D game or a completely different Ludo game if needed.

4. PHPWIKICMS

PHP, MySQL.
A framework that allows you to easily create a wiki style page management system, supports tree-style relationships and their management and viewing..

5. STUDENT NOTIFICATION AND INFORMATION SYSTEM

PHP, MySQL, Android, Java, Material Design.

A system comprising of a website (for the faculty) and an Android app (for the students) which offers a user-friendly way of accessing and publishing notifications (simple notices and event notices), time-table, syllabus (with support for keeping various versions of syllabus for old courses), faculty information as well as date sheet publishing for specific types (seminars, practicals, sessionals, final-exams). The system keeps track of which faculty member made which changes, and also supports three levels of user privileges for safety and for providing specific publishing rights.

6. ROUGH FIGHT

Unity3D, C#.
This was a brawl style game that included hand-combat AI that would fight and dodge player moves. It also featured local multiplayer. This project was never released and remains incomplete.

7. CHEATIFY

Android, Java, SQLite, Google Sheets.
Android app featuring an encyclopaedia of video game guides I developed while experimenting with databases in 2011. The app featured over 30,000 guides and fetched new guides from the web server and saved them in the app's database for offline reading and editing.

8. MINIMAL CLOCK WIDGET

Android, Java.
In the early days of android, every provider like HTC, Samsung, etc. had their own different looking user interfaces and clock widget. With this widget I tried to provide users with a simple, minimal and elegant time viewing experience on their home-screens.

9. HUMMER 3D LIVE WALLPAPER

Android, Unity3D, UnityScript.
Part of my early experiments with android development, this live wallpaper featured a 3d model of the popular GMC Hummer that responded to touches.