

# Amritanshu Singh

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IIT-BHU, Varanasi || Mathematics and Computing

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Profile Links: [GitHub](#), [LinkedIn](#)

ACADEMIC QUALIFICATIONS (in reverse chronological order)				
Degree/Exam		Board/Institute	%/CGPA	Year
Integrated Dual Degree (B. Tech + M. Tech)		I.I.T (B.H.U), Varanasi	7.41 / 10	2021
CLASS XII		C.B.S.E.	87.8%	2015
CLASS X		C.B.S.E.	9.4 / 10	2013
INDUSTRY EXPERIENCE				
Groupot India Pvt. Ltd.			Feb' 2022 – Dec' 2022	
Backend Software Developer	<ul style="list-style-type: none"><li>• <b>GRAND stack</b> - Designed and developed robust, highly scalable, production-grade GraphQL and CypherQL APIs using NodeJS framework and Neo4j as database for main app and website.</li><li>• <b>Enhanced</b> website performance <b>by 300% by improving</b> the existing CypherQL and GraphQL queries and <b>redesigning</b> sections of the <b>Neo4j Database and GraphQL's Schema Definition Language (SDL)</b>.</li><li>• <b>Built backend services for Help &amp; Support and FAQ services</b> for the entire platform <b>from scratch</b>.</li><li>• <b>Used AWS services</b> like Lambda function, SQS, S3 bucket, etc to build <b>6 end-to-end notification channels</b> for consumer app. <b>Wrote cron-jobs</b> to increase the dashboard's performance for website.</li><li>• <b>Designed PostgreSQL database model</b>, cleaned and <b>migrated all transactional and consumer data</b> from Neo4j to PostgreSQL database to improve the performance of the dashboard components.</li></ul>			
SKILLS AND TECHNOLOGIES				
Programming Languages and Technologies	<ul style="list-style-type: none"><li>• <b>C / C++, JavaScript, NodeJS, Apollo, GraphQL, Neo4j, CypherQL</b>, PostgreSQL, JAVA</li><li>• <b>AWS Services</b>– Lambda Function, SQS, SNS, S3 bucket, Event Bridge, CloudWatch, etc</li><li>• Git/GitHub, <b>Data Structures and Algorithms</b>, CLI</li></ul>			
Programming Projects	<ul style="list-style-type: none"><li>• <b>String Similarity Value Project (C++)</b>: Used <b>Levenshtein Distance Algorithm</b> and <b>Dice Coefficient Algorithm</b>. Added <b>edge test cases</b> by integrating the <b>GoogleTest framework</b> using <b>CMAKE</b> build tool.</li></ul>			2022
	<ul style="list-style-type: none"><li>• <b>Sudoku game (C++)</b>: Lets you <b>play sudoku</b> by entering row, column, and digit in empty cells and solves the <b>sudoku</b> for you using <b>backtracking algorithm</b> at a single command - 'solve'.</li></ul>			2021
	<ul style="list-style-type: none"><li>• <b>Employee Payroll Management System</b>: A detailed <b>C++ based</b> project using <b>C++ Graphics</b>, <b>adv. OOPS concept</b>, <b>File Handling</b>, to manage records and <b>import/export them using .dat file</b></li></ul>			2021
ACADEMIC PROJECTS AND PAPERS				
THESIS	<u><b>Time Delayed Neural Networks - Training Algorithm for Speech Recognition</b></u> <ul style="list-style-type: none"><li>• <b>Trained</b> Time Delayed Neural Networks (TDNNs) using <b>8 well-known TDNN algorithms</b> such as Back-Propagation, Fletcher Reeves Update, etc. <b>against 200 samples</b>, 50% to train and 50% to test.</li><li>• <b>Benchmarked the performance</b> of the 8 algorithms on parameters like <b>word recognition accuracy</b>, <b>required epochs</b> and <b>performance function (MSE)</b>.</li></ul>			2021
Complex Valued Neural Network	<ul style="list-style-type: none"><li>• Studied CVNNs w.r.t <b>Real-imaginary type</b> activation func &amp; <b>amplitude-phase type</b> activation func.</li><li>• Analyzed imp. of <b>complex-domain treatment</b> in relation to amplitude-phase-type activation func.</li><li>• Compared <b>real &amp; complex valued feed forward NN</b>; Highlighted <b>pros of CVNN</b> w.r.t <b>XOR problem</b></li></ul>			2020
ENTREPRENEURIAL / NON-PROFIT VENTURE				
CMO, EGO SMART VEHICLES PVT. LTD	<ul style="list-style-type: none"><li>• Played a <b>pivotal role</b> in the start-up's <b>incubation</b> in MCIE; incubation cell of I.I.T (B.H.U), Varanasi</li><li>• Conceived a <b>low-cost</b> customized <b>E-vehicle</b> that reduced clients' <b>carbon footprint</b> by <b>~27%</b></li><li>• Developed the <b>Business model</b>; Led marketing team of <b>5+ people</b>, Devised <b>monetization strategies</b>.</li></ul>			2019
POSITIONS OF RESPONSIBILITY				
FESTIVAL HEAD, SPIRIT	<ul style="list-style-type: none"><li>• Led <b>3-tier</b> team of <b>150+</b>; Member of the <b>core organizing team</b> for the annual departmental festival.</li><li>• Accomplished a <b>15%</b> increment in foot-fall (<b>YoY</b>); Increased no. of Facebook likes from <b>1k to 4k+</b></li><li>• Raised &amp; managed a budget of INR <b>20+ Lakhs</b> &amp; handled <b>1,300+</b> participations from <b>30+</b> colleges.</li></ul>			2017