SCALER

FOR THE INDUSTRY, FROM THE INDUSTRY!

#CreateImpact

About **Scaler**

Scaler (by InterviewBit) is an outcome-focused leading ed-tech platform for tech enthusiasts. The industry-vetted approach towards training young professionals helps them upskill and bag the career of their dreams. We are a transformative tech school devoted to creating a growth ecosystem to assist them in unlocking talent and opportunities at every stage of their careers. Students enrolled with us are taught, guided, and mentored by top professionals and experts working at leading organisations, including Google, Facebook, Intuit, Microsoft, Amazon, Hotstar, etc. Our learners have witnessed a 5x RoI (Return on Investment) from our program. Our offerings include Scaler Academy, Scaler Data Science & now, Scaler Neovarsity.

INDEX

Masters of Science in Computer Science

(Specialisation in Artificial Intelligence & Machine Learning)

About **95%** of professionals wish to understand business problems better

80% stumbled as they began working with real-world datasets

The large percentage indicates an evident gap between what conventional academia offers & what the industry demands - enter **Scaler Neovarsity**.

Scaler Neovarsity is our handcrafted initiative to help techies kick-start their careers in Computer Science. In partnership with Woolf University, backed by **European Credit Transfer** and **Accumulation System** (ECTS) for accreditation and approved by **Educational Credential Evaluators** (ECE), Scaler has chalked out a Master's Program that re-invents higher education so that our Computer Science graduates meet industry standards.

Scaler Neovarsity is the first institute of its kind that preserves and upholds the Skills-with-Degree culture. It can be your breakthrough from the rat-race culture of conventional education and help you scale ahead in the tech industry. The course covers foundational subjects and real-world skills in such a way that you are ready for your next step, be it top-tech companies or research. We aim to revolutionise the ed-tech space altogether so that you can **#CreateImpact** in your career and the tech world.

Neovarsity Highlights

Here's what you can expect as you opt for a Master's in Computer Science by Neovarsity that validates your skillset

Industry-Vetted (MAANG Approved) Curriculum

Regular 1:1 Mentorship

Live Classes with Product Industry Experts

Strong & Supportive Tech Community

Large Networking Events

Business Case Studies on Real-World Datasets

Course accredited by European Credit Transfer System (ECTS)

A Dedicated Team of Recruiters

Actionable Career Assistance with Placement Support

The Scaler Way to be Industry-ready

As a Computer Science enthusiast, you are actively looking for ways that can help you scale ahead both professionally and academically. To tackle real-world challenges, you need real-world exposure. Be it higher education or getting a job, Neovarsity will carefully weave the skill to understand business & enrich your learning experience. Learn in-demand skills & establish yourself with our Master's Program in Computer Science.

We are ECTS accredited

- Designed & taught by MAANG experts
- Recognised by eminent Industries across the globe
- Transferable Credits to secure academic achievements
- Seamless support for higher education & employment

We are ECE approved

- ECE is your passport to education & employment overseas
- Hassle-free evaluation of credits
- US equivalency for academic credentials
- Quick & responsive document verification
- International recognition of academic credentials

Industry-Powered Curriculum

A comprehensive approach is crafted to sow the seeds of strong foundational concepts of CS, gradually escalating you to come to grips with Artificial Intelligence & Machine Learning.

The experts from top-tech companies have carefully crafted the curriculum without compromising the academic standards. Neovarsity will train you to be a lifelong learner & evolve along with the industry.

Semester 1

Topics Covered	Topics Credits	Total Duration
Introduction to Computer Programming - Part 1	30 CREDITS	06 MONTHS
Introduction to Computer Programming - Part 2		
Introduction to Problem Solving - Part 1		
Introduction to Problem Solving - Part 2		
Relational Databases		
Numericals Programming for Python		

Semester 2

Topics Covered	Topics Credits	Total Duration
Applied Statistics	30 CREDITS	06 MONTHS
Statistical Programming		
High Dimensional Data Analysis		
Introduction to Machine Learning		
Advanced Machine Learning		
Introduction to Deep-Learning		

Semester 3*

Topics Covered	Topics Credits	Total Duration
Deep-Learning for Computer Vision	30 CREDITS	06 MONTHS
Deep-Learning for NLP		
Productionisation of ML systems		
Mathematics for Computer Science		
Design and Analysis of Algorithms		
Data Structures		
Advance Algorithms		

*You can either choose to study all or pick any 6 out of 7 topics

The highlight of Neovarsity's Master's Program is its real-world utility. We'll nurture you to understand cutting-edge research work & computational tools from first principles.

SCALER PLUS You get personalised Career Assistance from experts to shape your future better.

Want more details on the curriculum?

Check out Page 15- Page 24
for a deeper dive into our curriculum.

Neovarsity Welcomes You...

Our Master's program is diligently designed to meet the requirements of working professionals (1+ years of experience) looking to learn, upskill & grow.

You're welcome, if you are

- Looking to transit to Artificial Intelligence & Machine Learning domain
- A Machine Learning Engineer who wants to scale ahead
- A working professional who wants to shift to product-based companies
- A Non-Software Professional willing to make a career in Computer Science (Data Science or Machine Learning)

We don't expect you to have any programming experience as we'll take you through the concepts from scratch. However, individuals with prior programming experience are free to skip the basics and head straight to Machine Learning & Artificial Inteligence Development.

Let Your Skills Certify You!

- **We will evaluate your skill set**

Our evaluation process chalks out your performance based on assignments & quizzes including both objective & subjective type questions.

- **We will certify your skill set with a Degree**

Upon completion of the program, you will be awarded a Degree that industry-approves your talents & skills. Scaler Neovarsity will Skill-Certify you - a quality-assured process based on the Standards of ECTS, aligning with ECE Norms & in partnership with Woolf University.

Learn from Experts who've been there, done that!

Pull out your learner's hat as our Industry Experts walk you through every concept with a fresh perspective. Have a look at our teaching army who'll impart industry wisdom so that you gain real-world exposure.

Mudit Goel

Ex- LinkedIn, INTUIT

At LinkedIn and Intuit, Mudit was granted patents by the US Government. He led the Data Science team at D2L (ranked among the most innovative companies in Data Science). Mudit founded Coding Elements, which was selected by the Govt. of India to teach coding to 2 Million students. He currently leads the Data Science and ML program at Scaler.

Anshuman Singh

Co-Founder, SCALER, Ex - facebook

He is the co-founder of Scaler Academy and a two-time ACM ICPC world finalist. He was one of the founding team members of Facebook Messenger and worked directly with Mark Zuckerberg on product development.

Anant Mittal

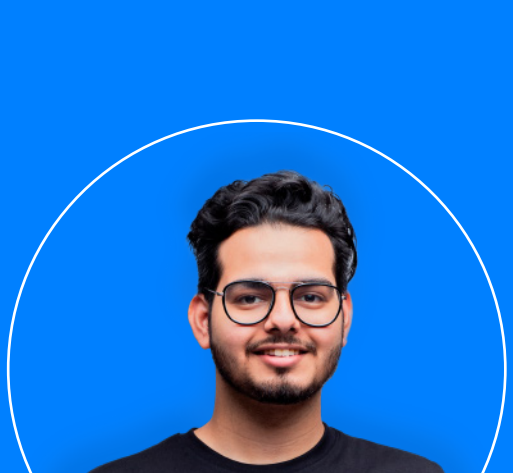
UNIVERSITY OF MARYLAND, INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY HYDERABAD

As a researcher at the University of Maryland, he worked on cutting-edge systems to find biomarkers of task activities in the brain. He designed and developed COVID-19 & hygiene-related analytics solutions such as temperature screening and violations related to preventive measures.

Srikanth Varma

Ex-Lead Machine Learning Scientist, amazon

Srikanth enjoys teaching and loves solving problems that matter, by building products and services from the ground up. He is a lifelong learner, tinkerer and a team builder, who has worked with Amazon, Yahoo, and co-founded Applied Roots.



Mohit Uniyal

Co-founder, CODING MINUTES Mentor - Google Code-in , TensorFlow

Mohit is the co-founder of 2 ed-tech startups dedicated to competitive coding preparation. He began his mentoring journey as a Mentor@TensorFlow at Google Code-in. An ex-instructor and Product Engineer at Coding Blocks, he has extensive teaching experience. Currently, he is a Data Scientist at Coding Minutes.

Harshit Tyagi

Ex-Data Engineer, Elucidata, Instructor- LinkedIn Learning

Harshit is a Lead Instructor (Data Science & Machine Learning) at Scaler Data Science. He is the creator of bestselling Data Science & Engineering courses at LinkedIn Learning, OpenClassrooms, Manning, and O'Reilly Media. An ex-Data Engineer at Elucidata, he created biomedical apps for Research Scientists at Yale, UCLA, and MIT.

Suraaj Hasija

Ex-Senior Data Scientist, MasterCard

He leads Data Science Business Cases at Scaler Data Science. Working as a Data Scientist 2 at MasterCard, he has transformed industry insights into actionable success for the business. Responsible for building International Market Pricing Strategy, he leads some of the exemplary large-scale Data Science projects within MasterCard.

Prateek Narang

Ex-Software Engineer, Google

An ex-Googler, Prateek is the co-founder of 2 ed-tech startups dedicated to competitive coding preparation. He has completed his MS in Machine Learning from IIT Delhi. Also, he is a popular Udemy Instructor, teaching coding to 75K+ students. Currently, Prateek is an Instructor and the Engineering Lead at Scaler.

Ajay Shenoy

Lead Data Science & Machine Learning Instructor, SCALER

He is a former AI Scientist at AlphaICs Corporation and a Lead AI Scientist at Target, currently working as a lead Data Science instructor at Scaler with a PhD in Electrical Engineering from IISc. His areas of expertise lie in Machine Learning, Neural Networks, Statistics, Stochastic Processes, Fourier Analysis, and Image Processing.

Meet Your Mentors

Get clarity on your career path & tackle every stage of your Upskilling journey with 1:1 regular mentorship. Our mentors will go all the way to help you with your queries, give interview insights, provide placement assistance & make sure you're on the right track.

Sahil Chelaramani
Data Scientist,
Microsoft

He has worked on Bing Search and Azure Global Development teams. He has experience in building large Deep Learning projects and robust Data Science systems.

Girijesh Prasad
Senior Manager, Data Science, Morgan Stanley

He has extensive experience in delivering end-to-end Data Science solutions - from infrastructure to models. He can also share his experience about management and business.

Rajeev Baditha
Data Scientist,
Walmart

He has theoretical as well as hands-on knowledge of Data Science, and has worked at Walmart and Fractal Analytics. He has a Master's degree from Indian Statistical Institute.

Hitesh Hinduja
Senior Manager, Artificial Intelligence, OLA ELECTRIC

He is passionate about cutting-edge research. He also leads a team of 20 to deliver the best electric vehicles, while leveraging end-to-end Machine Learning pipelines.

Advisory Board:
Cornerstone of Neovarsity

How exciting it'd be for you to work on business problems that come fresh from the industry?

Our Advisory Committee consists of tech professionals who give us a good peek into the industry insights to help us craft about 80 business case studies. Take a look at our industry advisors who help us (hence you) to put our best foot forward.

Pawan Kumar
Head of Data Science,
Uber, Ex - LinkedIn

Pawan is an experienced Data Scientist with a strong product sense and an innate ability to communicate complex insights clearly. He has been leading and spearheading the Data Science divisions at Uber and LinkedIn.

He has been empanelled as an advisor for the Scaler Data Science Program.

Ramit Sawhney
Georgia Tech, TOWER RESEARCH CAPITAL

A seasoned software engineer, Ramit is a globally published and recognised researcher at IIIT-Delhi, Georgia Institute of Technology, the AI Institute at University of Southern Carolina, and Open Source Maintainer at AnitaB.org

He has been empanelled as the research advisor for the Scaler Data Science Program.

Amp up your Career

With the right support & career guidance, your Skills can have a real-world impact.

- Access job opportunities from **600+ Partner Employers**
- Practice mock **interviews** with Industry Ninjas
- Connect & collaborate with **20K+ Scaler** learers and alumni
- Get the needed **Placement Assistance** with insights to optimise your Resume & LinkedIn Profile

Creating Impact with 1000+ tech professionals & counting...

From checking our brochure to making the leap to their Dream companies- they made it.

Invest in Skills & say Hello to Success

Master's Program Fee - INR 4 Lakhs (Inclusive of GST)

Our Payment plans include multiple easy financing options that make Scaler **accessible & affordable** to everyone. Not to forget, this investment will benefit your career for years to come.

Need more clarity on the fee structure?

TALK TO US

A Deeper Dive into the Curriculum

Scaler Neovarsity will prepare you to tackle the toughest challenges that Machine Learning engineers can face in their journey. Go through our detailed curriculum to understand how.

Note: Listed below is our Semester wise course structure with (Scaler Advantage)

Semester 1

01 Introduction to Computer Programming Part 1

TOPICS COVERED

Introduction to Python, Data Types, Operators, Control Statements 1 and 2, Beginner Maths, Iteration-While Loops, Problem Solving1, For Loops, Iteration- Problem Solving, Iteration-Nested Loops, Iteration - Pattern Printing

SCALER ADVANTAGE

You'll start from the scratch with the basics of programming to understand the logic behind programming and why programming is important. Learn about control statements with loops and printing results!

02 Introduction to Computer Programming Part 2

TOPICS COVERED

Functions, Lists -1D, Lists - 1D Problem Solving, Statistics, List Slicing, List Problem Solving, List 2D, Lists 2D Problem solving, Linear Algebra, Strings 1 and 2, Tuples, Set Theory, Dictionaries, Buffer.

SCALER ADVANTAGE

This is the next step of programming where you learn about various data types, about classes and objects, and dive deeper into the world of programming.

03 Introduction to Problem Solving - Part 1

TOPICS COVERED

Introduction to Problem Solving, Time Complexity - 1, Time Complexity - 2, Introduction to Arrays, Arrays : Carry Forward, Arrays : SubArrays, Arrays: 2D matrices, Arrays : Interview Problems, Bit Manipulations - 1, Bit Manipulations -2, Bit Manipulations - 3, Maths - Modular Arithmetic Introduction, Arrays and Maths

SCALER ADVANTAGE

Programming is a tool to solve problems - so you'll learn how to solve problems. But, more importantly, you'll understand the intuition behind the concept, which will enable you to identify patterns easily. You'll also learn about time and space complexity, manipulation bits to solve basic problems.

04 Introduction to Problem Solving - Part 2

TOPICS COVERED

Sorting, Strings, Hashing -1, Hashing 2, Recursion -1, Recursion -2, Linked Lists - Basics. Stacks and Queues - Basics, Trees Basics - 1, Trees Basics -2, Subsequences & Subsets

SCALER ADVANTAGE

Learn solving problems using programming tools and solve some fundamentals of computer science problems. Sorting, Hashing and various ways to arrange data structures and a small intro to the world of data structures.

05 Relational Databases

TOPICS COVERED

Databases-Relational, Non-Relational; SQL 01 (Basic SQL Keywords and Calculations), SQL 02 (Filtering and Subqueries), SQL - 03 - JOINs and Aggregation, SQL - 04 - Window Functions, SQL - 05 - Date and Time Functions, SQL - 06 - Advanced constructs and Query Structures

SCALER ADVANTAGE

Learn how to extract data from various sources (cloud or local) & work with data in different formats (Tables, Files, Images, Audio, Video, Text).

06 Numericals Programming for Python

TOPICS COVERED

Introduction to Python Programming, Conditional Statements, Loops, Functions, Recursion, Lists, Tuple. Strings, Dictionary, Sets, Numpy, Pandas, Matplotlib, Seaborn, Python RegEx, Advanced Concepts in Functions, Functional Programming.

SCALER ADVANTAGE

Prior know-how of Python is not a mandate. You'll cover essential tools like Git and solve complex business problems using Numpy & Pandas.

Semester 2

01 Applied Statistics

TOPICS COVERED

Hypothesis Testing, Experiment Design, Counting and Combinatorics, Probability and Set Theory, Advanced Probability Concepts, Basic Probability Distributions, Advanced Distributions, Inferential Statistics, Statistical Testing (Anova)

SCALER ADVANTAGE

From Emergency Call Centre to Casino of Las Vegas - Experience Probability & Statistics with a fresh perspective.

02 Statistical Programming

TOPICS COVERED

Hypothesis Testing, ANOVA, Feature Engineering, Experiment Design, Regex, NLTK

SCALER ADVANTAGE

Learn to create different features for your data, find statistical anomalies and learn hypothesis testing of data while learning statistical python libraries to get an insight about your data.

03 High dimensional Data Analysis

TOPICS COVERED

Clustering, Advanced Clustering Methods, Anomaly Detection, GMM - Gaussian Mixture Models, PCA, t-SNE, Text Representation

SCALER ADVANTAGE

Manage to deal with large amount of Data Sets Visualise Data Sets easily & get more insights into Data patterns by applying these algorithms Reduce high-dimensional data to 2D & 3D data for easy visualisations

04 Introduction to Machine Learning

TOPICS COVERED

Vector Algebra, Optimization, Advanced Linear Algebra, Coordinate Geometry, Linear Regression, Overfitting, Regularisation, Cross-Validation, Logistic Regression, KNN, Working with Imbalanced Data

SCALER ADVANTAGE

Solidify your fundamentals & fall in love with Mathematics as you solve engaging problems - from Drone Delivery to Soccer Matches. Separate Data Sets or find similar Data Points with KNN. Apply your understanding of Logic Regression in the field of Data Analytics.

05 Advanced Machine Learning

TOPICS COVERED

Decision Trees, Ensemble Learning - Bagging, Ensemble Learning - Boosting, Bagging and Boosting Applications, SVM, Bayesian Inference, Recommender Systems, EDA, Stationarity, Forecasting

SCALER ADVANTAGE

Thanks to Machine Learning, Netflix & Spotify recommend exactly what you'd like to have. Get insights into the recommendation systems of applications & understand how they work.

06 Introduction to Deep-Learning

TOPICS COVERED

Introduction to Neural Networks, Keras/Tensorflow, Regularisation Techniques, Optimisation, Improving Neural Network, Selecting the best performing NN, Streamline NN Training workflow, Pytorch, Word Embedding

SCALER ADVANTAGE

From Facial Recognition to Stock Market Prediction - Learn how Neural Networks save the day with their real-world utility.

Semester 3

01 Deep-Learning for Computer Vision

TOPICS COVERED

Image Processing (OpenCV), Introduction to ConvNets, Popular CNN Architecture, CNN Visualisation & Data Augmentation, Transfer Learning, Segmentation - Object Localization and Detection, Introduction to Generative Models & GANs, Application of GANs, Advanced CNN+NLP

SCALER ADVANTAGE

Get to grips with Computer Vision models that power object detection, virtual reality and explore the mechanism of self-driving cars.

02 Deep-Learning for NLP

TOPICS COVERED

Attention Models, Siamese Networks, Advanced Concepts, Text Representation, POS Tagging & Dependency Parsing, Topic Modelling, Language Modelling, RNN, Information Extraction - Named Entity Recognition, Transformers – Attention Mechanism, Machine Translation; Application of BERT, Advanced CNN+NLP

SCALER ADVANTAGE

Understand how Chatbots & Virtual Assistance make life easier with the right mix of Natural Language Processing with Deep Learning.

03 Productionisation of ML systems

TOPICS COVERED

ML System Design - Product, System Design, Project; Inference Serving 1 Rest APIs, Containerization, Data & Model Management, Scripting 2, Testing, Reproducibility, GitHub Action, Prediction Serving. Scripting, Testing, Reproducibility, Setting up CI/CD pipelines for automated deployment, Predicting Serving

SCALER ADVANTAGE

Working with data is one thing, but deploying your ML model for real-world application is another. We'll assist you in directly deploying your ML Product in a real-world scenario. Get hands-on with real-world's unclean data as you work on projects built-in partnerships with top companies.

04 Mathematics for Computer Science

TOPICS COVERED

Divisibility rules, Modular Arithmetic, Invert Mod by Fermat Theorem, Prime Numbers, Fibonacci Numbers, Matrix Exponential, Combinatorics , Probability

SCALER ADVANTAGE

Understand some fundamental concepts of mathematics to solve programming problems.

05 Design and Analysis of Algorithms

TOPICS COVERED

Sorting - Selection Sort vs Bubble Sort, Merge Sort, Insertion Sort, Count Sort Binary Search, Pointers, Hashing, Strings and Pattern Matching, Problems on Strings with Hashmaps

SCALER ADVANTAGE

Explore & analyse High-level and low-level algorithms and learn how to design programs by finding the most efficient way to manage your data.

06 Data Structures

TOPICS COVERED

Recursion, Stacks, Queues, Linked Lists, Trees, Heap

SCALER ADVANTAGE

Manipulate & organise data in various formats for most efficient solutions to business problems. Manage Data Systems in various ways to see better performance and pave your way to high-paying jobs in MAANG like companies.

07 Advance Algorithms

TOPICS COVERED

Greedy Algorithms, Dynamic Programming (DP), Bottom up DP, Top Down DP, Knapsack, Strings, Catalan Numbers, Graph Theory, Graph Colouring, BiPartite graph, Topological Sort, Dijkstra

SCALER ADVANTAGE

Dig deep into the world of algorithms and learn about dynamic programming and graph theory which are important computer science algorithms to solve real world data science problems.

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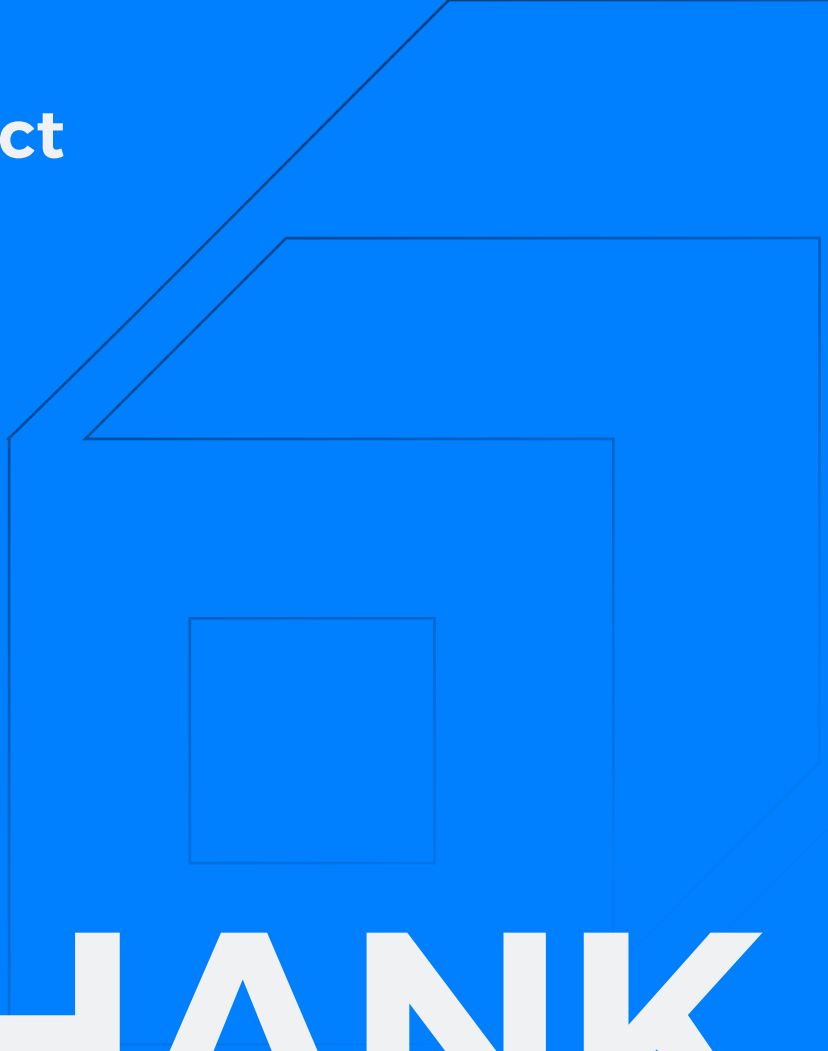

THANK YOU

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