LinkedIn Network Analysis — Batch 2024–2028

A Graph-Theoretic Study of Student Connectivity

Full Graph (G): 28,555 Nodes — 100,693 Edges
Subgraph (G_su): 154 Nodes — 9,109 Edges

1. Objective

To understand student networking patterns and identify key individuals based on LinkedIn graph data.

2. Graph Model

- **G (Full Graph)** — Includes all connections: students, alumni, professionals.

- **G_su (Student-Only)** — Includes only current university students.

3. Network Stats

- **G**: 28,555 nodes, 100,693 edges (Avg degree ~7.05)

- **G_su**: 154 nodes, 9,109 edges (Avg degree ~118.31)

  Insights:

- **G** is broad — shows reach.

- **G_su** is dense — shows strong peer links.

4. External Connectivity Leaders

Student	Degree (G)	Degree (G_su)	External Links
Rohit Malviya	4258	147	4111
Ravi Rajput	4068	150	3918
Manoj Dewda	3967	151	3816
Ramraj Nagar	3711	145	3566
Nirmal Mewada	3523	150	3373

- Rohit Malviya's external/internal ratio: **28.32**

- Avg external links per student: **6.41**

5. Path Connectivity (100 Random Pairs)

G (Full Graph):

- Avg Walk: 94.86   —   Pruned: 69.82

- Longest Path: 144

- **Top Connectors**: Rohit Malviya, Manoj Dewda, Ramraj Nagar

  G_su (Student-Only):

- Avg Walk: 76.45   —   Pruned: 53.93

- Longest Path: 113

- **Top Connectors**: Anamika Kumari, Pawan Kushwah, Anuradha Tiwari

6. Key Takeaways

- **External Leaders:** Rohit Malviya and others show strong industry links.

- **Internal Influencers:** Anamika Kumari and peers are key student connectors.

- **Path Length:** Long chains show network depth and complexity.

- **Mixed Engagement:** Some students lack peer ties; some are central hubs.

Data from 100 random student-pairs was used to detect connection paths and identify key mid-path nodes.

7. Closing Note

This report uses graph theory to spot student influencers and connection trends. Such insights help in hiring, recommendations, and campus engagement analysis.

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