

Multi-Criteria Graduate School Decision-Making Analysis

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INSTRUCTIONS: (Steps Shown in Sample Following Instructions)

- 1) Rank and sort all factors under each variable in order of importance to you, 1-3; lower priority (1), mid-priority (2), top-priority (3). (Blue)
- 2) Assign variable weight % based upon perceived overall variable importance for each of the 5 variables (total for all 5 variables must = 100%) (Red)
- 3) Assign factor rank weight % to 3, 2, and 1 rated factors according to your perceived % importance of top-priority (3), mid-priority (2), and low-priority factors (1) (total for 3, 2, and 1 %'s added together for each variable must = 100%), The % weight assigned to 3's, 2's, and 1's will remain consistent across all variables, except for intuition, which will be weighted at 100% since it is a single factor. (Pink) Once this step is done, the blue numbers can be deleted as these were just used for sorting purposes before weight was assigned.
- 4) For each grad program, write the name of the specific variable and rank all of the factors according to your perceptions and all given information at the time by following the instructions underneath the variable name and paying attention to specific instructions. Scores of 1 will always mean the least desired scenario given the factor, 2 the middle/okay, and 3 the best. **This will be subjective based upon how you individually interpret the variables** (ex: proximity to home, if a campus is very close to home, could be ranked 3 if that is desirable, but 1 if this is not desirable; There are only gains incorporated, not losses.) (Orange)
- 5) Perform Decisional Analysis In Python by entering your specific numbers, weights, and variable names.
Receive output (higher scores in final output = better decision)

Example:

Variable 1: Mentor(s): Total Weight assigned: 35%

Dr. GiggleWorth

- 1) **Rank individual mentor factors:** 1 (worst outcome) to 3 (best outcome)
- 2) **Special Instructions:** Take mean score of each factor if multiple mentors for the program; for gender: 1=male, 3=female; RMP scores (0 to 2.4: assign 1, 2.5 to 3.5: assign 2, 3.6 to 5: assign 3)

3

research interest alignment: 3

methods interest alignment: 3

availability/response time: 2

colleagues/connections/co-authors: 3

support/endorsement for mentees: 1

success of former mentees: 2

funding track record: 1

project/interest diversity/flexibility: 3

degree of oversight (micromanagement→full autonomy): 2

55% weight

personality alignment: 2
intimidating-ness/approachability: 1
gender (female preferred): 3
bada\$\$ery: 3
age: 2
academic community reputation: 2
typical mentor-mentee ratio: 1
shared values: 3
perceived job stability/tenure status within current school/lab: 3
difficulty/rigor level fit: 2
graduate student opinions: 2
CV accolades/positions held: 3
prestige level compared to academic parity in the same department: 2
35% weight

1
ego (confidence/competence factor): 1
h-index: 1
academic family tree: 3
other mentorship opportunities if issues arise: 3
alma mater(s): 2
RateMyProfessor score: 2
of former mentees: 1
graduation timeline of former mentees: 3
networking/web presence: 2
10% weight

Variable 2: Program/Degree: Total Weight assigned: 25%

PhD in Synaptic Shenanigans

- 1) **Rank individual program/degree factors:** 1 (worst outcome) to 3 (best outcome)
- 2) **Special Instructions:** for Carnegie Classification, R1: 3, Transitioning Up: 2, R2: 3; terminal program?: no=1, yes=2; transfer credit opportunity: yes=2, no=1

3
program-specific public perception/elitism: 3
overall curriculum: 2
teaching opportunities: 3
graduate base stipend: 2
assistantship/fellowship/external funding opportunities: 1
insurance offered & quality: 2
neuroimaging facilities/research method availability: 2
overall career placement outcomes: 3
retention rate: 3
potential to be a stand-out student: 1
opportunities for networking conferences/presentations: 3
55% weight

2

collaboration/competition departmental drama atmosphere: 3

Carnegie Classification: 1

rigor fit: 3

library resources: 2

diversity of program affiliates: 2

field-specific seminar/event offerings on-campus: 2

course sizes (instructor-student ratio): 1

availability of specialized coursework of interest: 2

program philosophy/structure: 2

35% weight

1

terminal program status? (MS/PhD): 1

degree type/name: 2

dean public perception: 3

transfer credit opportunity: 2

interdisciplinary opportunities within the university: 2

interdisciplinary/resource opportunities outside the university: 3

IRB pain in the a\$\$ level: 1

non-academic departmental events: 2

10% weight

Variable 3: School: Total Weight assigned: 15%

Mind's Eye University

1) **Rank individual school factors:** 1 (worst outcome) to 3 (best outcome)

3

overall public perception/elitism: 3

relocation difficulty: 3

proximity to home/family: 3

cost of living: 2

mental health resources: 1

location: 2

accreditation/league affiliation: 3

non-funded potential costs of attendance: 3

community vibe: 2

buildings/facilities: 2

perceived work-life balance/well-being of students: 3

55% weight

2

personal clout/bragging rights: 2

confidence in my ability to succeed/thrive: 2

activities on campus: 3

safety: 1

campus appeal: 2

campus offices/support services: 3

weather/climate: 2

diversity of student body: 3

walkability: 1

activities close to campus: 2

perceived trajectory: 3

35% weight

1

gym/on-campus fitness center: 2

political alignment: 3

size of student body: 3

athletics: 1

on-campus food offerings: 2

parking availability/cost: 3

clubs/organizations: 2

party scene: 1

religious affiliation: 3

current President's public perception: 2

alumni network: 3

clarity of webpages/resources: 2

social media presence: 3

funding for general improvements: 3

dating outlook: 2

10% weight

Variable 4: Lab: Total Weight assigned: 20%

Unlimited Budget Laboratory

1) **Rank individual lab factors:** 1 (worst outcome) to 3 (best outcome)

2) **Special Instructions:** (for affiliation w/ a greater network, yes=2, no=1)

3

student member personalities: 2

morale/collaboration: 3

55% weight

2

size: 2

fun factor: 3

student member academic motivation: 2

recognition level: 1

35% weight

1

name: 3

affiliation with a greater lab network: 2

website/media presence and appeal: 2

reputation compared to other university-specific lab parity: 3
10% weight

Variable 5: Irrational Intuition: Weight assigned: 5%

A Gut Feeling With No True Logic, Just Dopamine Talking

1) **Special Instructions:** (3=strong desire to attend, 2=shifting feelings, 1=no strong feelings/less desirable)

Intuition score: 3

100% weight

This Decision-Making Score Generator Code was created and tested in CoLab by these steps:

- a) Take the Sum of all factors ranked per priority rating x Weight (done three times per variable—3's, 2's, and 1's) (except for intuition)
- b) Take the Sum of the three #s calculated in a) for each variable (except for intuition)
- c) Repeat a) and b) for each variable (except for intuition)
- d) Multiply each sum calculated in b) by the Weight assigned (ex: 35% → 0.35) for each variable individually (except for intuition)
- e) Take the Sum of all calculations found in d)
- f) Multiply the intuition score given by the intuition Weight assigned
- g) Sum the totals found in d) and f)
- h) Keep the intuition score, and multiply the other variables by the total weight assigned

***Note For Author:** To run a multi-criteria decision-making analysis on grad school with this code, I just need to rename variables to match whatever I'd like to analyze and replace the sample score factors with my assigned subjective score factors for every factor in the code.