Modeling COVID-19 Outcomes for Students, Campus Staff, and Santa Clara Community Under Different Reopening Scenarios at Stanford

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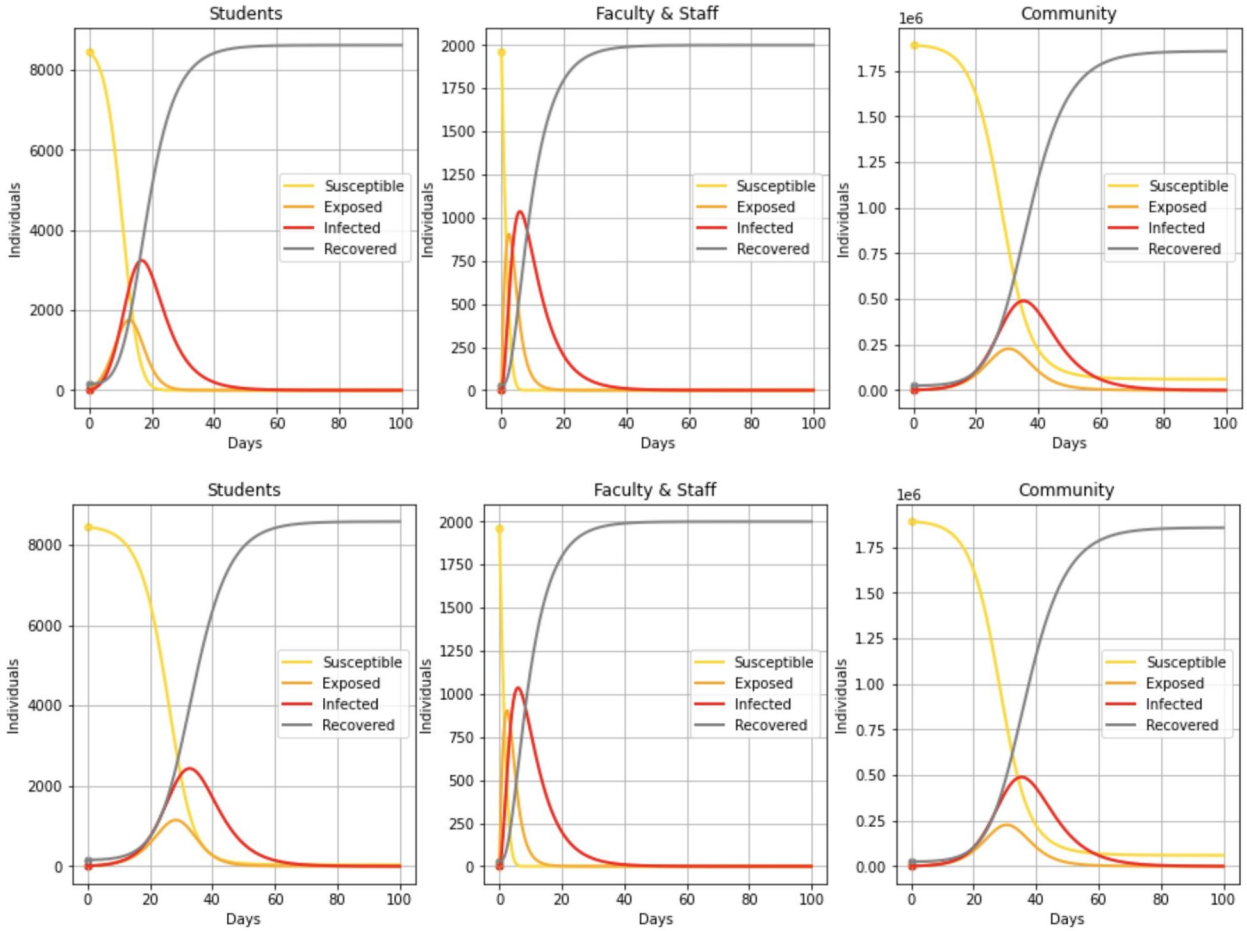
Setting up the Model

- Estimated initial SEIR values using a network-based approach
- Derived parameters from case data in Santa Clara and previous scientific papers
- Modeled interactions between three distinct populations: Stanford students, Stanford faculty/staff, and the surrounding Santa Clara community

Stanford COVID-19 dynamics mirror Santa Clara County dynamics

vs.

Lower student R0



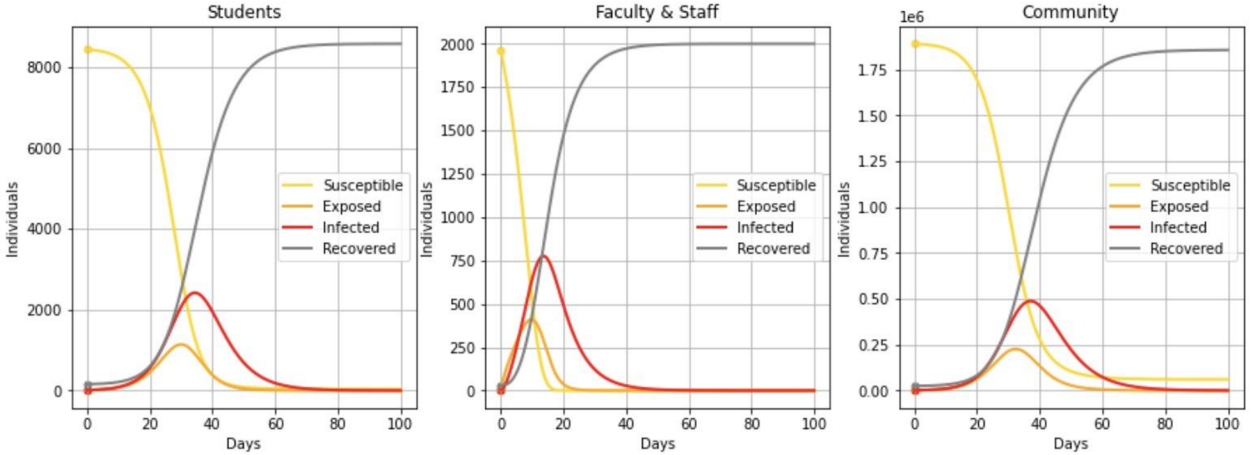
Lower student and faculty/staff R0

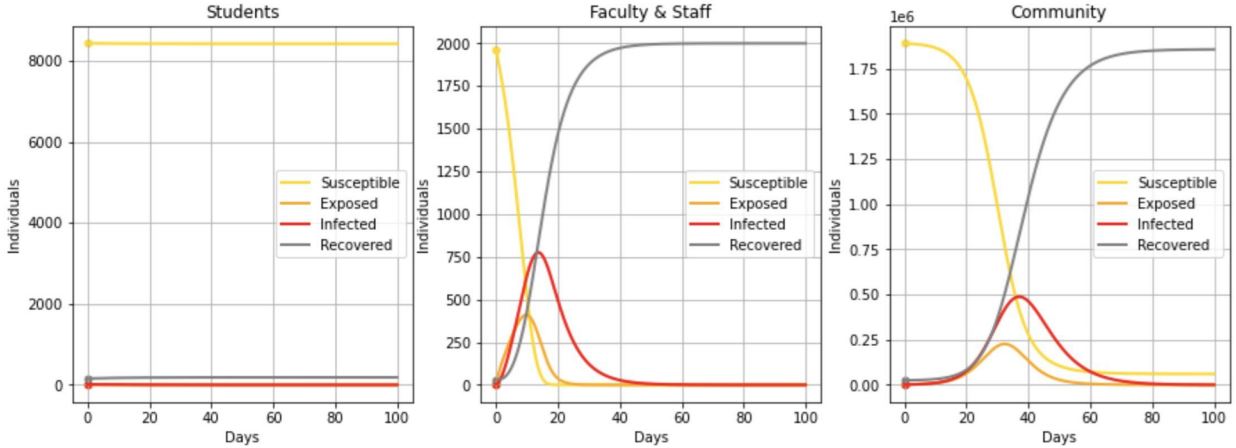
vs.

Lower student and faculty/staff R0

+

No inter-group contact between students and workers/community





Conclusions

- Lowering the student R0 while R0 remains high in community will only delay the peak of infectiveness, but will not affect the total amount of students getting infected

- Lowering the student and faculty/staff while R0 remains high in community will similarly only delay peak infectiveness, with little effect on the overall amount of individuals infected

- Lowering the student and faculty R0, while preventing inter-group contact between Stanford students and campus workers/community, is the only modeled method that can confer real change by preventing Stanford students from being infected