



Tuesday, January 7th, 4:10 - 5:00 p.m.

Undergrad
Student
Volunteers:

- TBA

In Surge 284

"Undergraduate Research and REUs"

Speaker: Scott Manifold

Snacks and drinks served!



Tuesday, January 14th, 4:10 - 5:00 p.m.

Undergrad
Student
Volunteers:

- TBA

In Surge 284

"SpaceJourney: Where Math meets Game Development!"

Come to Math Club to get an inside view into Indie Game Development as Nick Lanni talks about his latest game, SpaceJourney! Which uniquely puts space simulation in a first person view as you assume the role of a lone space captain. Here, Nick will show how he used Math to make the game's most unique design become a reality.

Snacks and drinks served!



Tuesday, January 21st, 4:10 - 5:00 p.m.

Undergrad
Student
Volunteers:

In Surge 284

- TBA

“Eigenfaces: Dimensionality Reduction for Face Recognition”

Kenny Flagg, UC Riverside

Abstract One potential issue in digital image classification is the high dimensionality of images. For example, an image containing 1000 pixels is a point in a 1000-dimensional space, since each pixel is a numerical value describing one aspect of the picture. Principal Component Analysis (PCA) addresses this issue by projecting data into a lower-dimensional subspace using eigenvectors of the covariance matrix as a basis, allowing for simpler and quicker computations. I will explain how PCA works and demonstrate how to apply it to images of faces in Matlab.

Snacks and drinks served!



Tuesday, January 28th, 4:10 - 5:00 p.m.

Undergrad
Student
Volunteers:

In Surge 284

- TBA

“Closure Properties of Context Free Languages”

Leo Vu, UCR

In Formal Language theory Context free languages are informally known as the palindrome languages. Unlike the more specific regular languages, context free languages have more unique patterns but at the same time do not have the same the same closure properties as regular languages. I will explain why several of the closure properties for regular languages do not hold for context free languages.

Snacks and drinks served.



Tuesday, February 4th, 4:10 - 5:00 p.m.

Undergrad
Student
Volunteers:

In Surge 284

- TBA

“GPS Visibility & Dilution of Precision Regions with Level Sets”

Scott Manifold, UC Riverside

GPS is a valuable tool, and as such, the optimization and accuracy of the techniques to measure the performance of the satellites are of paramount importance. Two major measures relating to performance are GPS Visibility and Dilution of Precision (DOP). Visibility is defined by regions that share a direct line of sight with sufficiently many satellites in orbit, while DOP is a metric correlated with GPS user error. The current system to determine the visibility and DOP of these satellites is accurate and useful, however it is time consuming. Satellite Visibility regions and Dilution of Precision calculations for GPS satellites represent a natural application of Level Set Methods: a method to represent and track the movement of interfaces and contours. Nevertheless, level set analysis has remained absent with respect to computational satellite performance simulations. The talk will explore some of the implementations of these Level Set Methods to GPS simulations along with various optimization techniques to improve computational efficiency.

Snacks and drinks served!



Tuesday, February 11th, 4:10 - 5:00 p.m.

Undergrad
Student
Volunteers:

In Surge 284

- TBA

"A Perspective of Programming Before and After an Education in Mathematics"

Parker Williams, UC Riverside

In Math Club today Parker Williams (a graduate student here in the math department) will be giving a talk on "A Perspective of Programming Before and After an Education in Mathematics", focusing on how his time majoring in mathematics changed and shaped his approach to problems.

Snacks and drinks served!



Tuesday, February 18th, 4:10 - 5:00 p.m.

Undergrad
Student
Volunteers:

In Surge 284

- TBA

Video: "Between the Folds"

"Origami: It's no longer just paper cranes. A determined group of theoretical scientists and fine artists have abandoned conventional careers to forge unlikely new lives as modern paper folders. These intrepid individuals are interpreting the world in paper, creating a wild mix of sensibilities that redefine art, science, and creativity"

Snacks and drinks served.



Tuesday, March 4th, 4:10 - 5:00 p.m.

Undergrad
Student
Volunteers:

In Surge 284

- TBA

Viewing of "The Prisoner of Benda"

Join us this week for a viewing of "The Prisoner of Benda", a Futurama episode written by Math PhD Ken Keeler. The plot is centered around a body-switching machine and a theorem involving permutation groups. After watching the episode, we will discuss the proof of the theorem.

Snacks and drinks served!