Welcome to BIOS 567

Mikhail Dozmorov

Fall 2016

Course logistics

Instructor: Mikhail G. Dozmorov
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Schedule: Monday, Wednesday 1:00pm – 2:20pm
Classroom: One Capital Square (OCS) 5009
Office hours: Mon, Wed 2:30pm – 4:00pm, OCS 730; TA: Mon, Wed 10:30am - 12:00pm
Course documents: https://blackboard.vcu.edu, https://mdozmorov.github.io/BIOS567/

Course prerequisites

Prerequisites: BIOS 524 Biostatistical Computing, BIOS 553 Linear Regression, and BIOS 554 ANOVA
Required text: Sorin Draghici "Statistics and Data Analysis for Microarrays Using R and Bioconductor", 2nd Ed., Chapman & Hall/CRC Press, 2012. ISBN-978-1-4398-0975-4, Supplemental course materials provided in-class
Software: The R programming environment

Computational Genomics

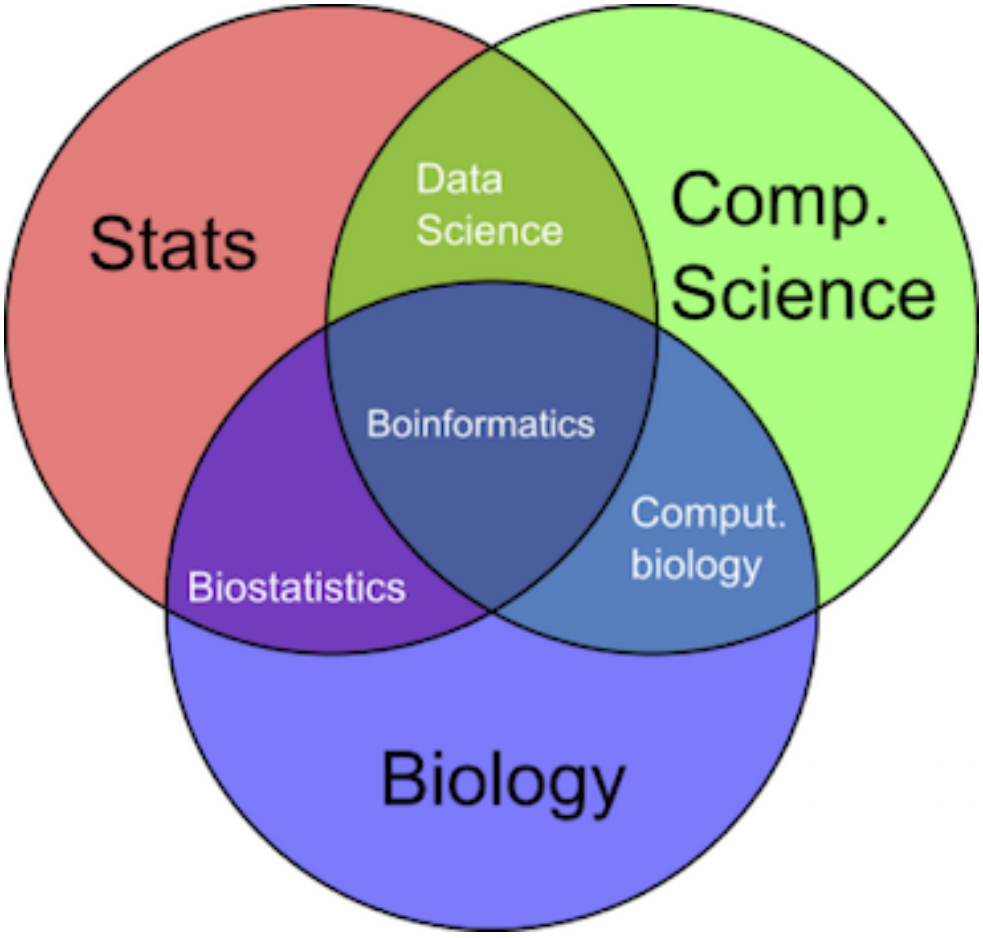
Genomics/Bioinformatics (general)

- Generation, organization, and analysis of biological data (initially genomic data)

Biostatistics

- Class of statistical methods for dealing with large biological data sets
- Goal: statistically identify significant changes in biological processes to answer relevant biological questions.
- High-throughput studies; get data matrix; mine the matrix for information

Bioinformatics



Data Scientist = statistician + programmer + coach + storyteller + artist

- Shlomo Aragmon

`https://genomejigsaw.wordpress.com/2015/09/27/faq`

Microarrays