

Title: From The Human Genome Project to Direct to Consumer Genomics

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Abstract

Since the availability of the first draft of human genome in the beginning of the millennia, there has been an explosion of genomics data. These data can take different forms including (but not limited to) whole genome sequence data, exome sequencing, or genotype data over limited number of single nucleotide polymorphic (SNP) sites.

Most of these datasets are collected through publicly funded projects. However, new emerging markets in biotechnology sector have made it possible to collect an unprecedented amount of genetic information mostly through direct to consumer genomics products.

Such wealth of data opens new opportunities in many different directions, including studying human origins, population history and discovering new drug targets.

In this talk, we briefly review basic concepts in genomics and causes of genetic variation and then take a deeper look into an example of one of the largest datasets of this kind (over one million genotyped samples in the AncestryDNA database) and review some intriguing results regarding population genetics of United States.

Resume

EXPERIENCE

2014 - Present	Senior Genomics Data Scientist, AncestryDNA, San Francisco, USA
2011-2014	Postdoctoral Scholar, Human Genetics, Howard Hughes Medical Institute (Columbia University and the University of Chicago), Chicago/New York
2009-2011	Postdoctoral Fellow, Department of Mathematics, University of Montreal, Montreal, Canada

EDUCATION

PhD, Mathematics, Concordia University, Montreal Canada
MSc., Electrical Engineering, University of Ottawa, Ottawa, Canada
BSc., Applied Physics, Sharif University of Technology, Tehran, Iran