Mark Ibrahim

mark.ibhm@gmail.com • (973) 459-8429 • markibrahim.me

SKILLS AND INTERESTS

- Python (SciPy Stack, Flask, object-oriented, PyTest), git, Linux bash, VIM, LaTeX, SQL, HTML, CSS, JavaScript
  - *familiar: D3, Spark, AWS, C++*
- Co-organizer of Burlington Python User Group
  - 180 members; led beginner Python Workshop

- Jazz/classical piano, cognitive bias psychology, phenomenology, existentialism, Bob Dylan, good food
- Fluent in oral and written French, selected to independently lead University French discussion groups

AWARDS

- Gighacks Burlington 2015: "most innovative app"
  civic engagement through video search

- UVM Agile CodeFest 2015: *1ˢᵗ place winner*
  interactive map of free food on campus

EXPERIENCE

New York, NY

UBS Investment Bank, *Fixed Income Market Risk*   Jan 2013 – Aug 2014
Revolutionized management of curve exposure, not captured under bank's standard risk framework
- Invented matrix sorting algorithm revealing $570,000 in uncaptured sensitivity to a 0.01% move in rates
- Identified poor curve positioning via unsupervised machine learning (PCA) on 6-month curve data
Automated daily manual 2½ hour risk metric evaluation of $658 million trading portfolio using Python

UBS Wealth Management, *Credit Risk and Collateral Evaluation*   Jun 2012 – Jan 2013
Single-handedly developed Visual Basic GUI to monitor collateral concentrations against live market data
- Presented to CRO, CFO who enthusiastically endorsed implementation across all $22.2bn loan portfolios

Condé Nast, *Freelance Software Developer*   Oct 2014 – Aug 2015

Social Media Posts App : automate and tag all Facebook and Twitter posts
JavaScript Google Calendar Extension: synchronize web production across team of writers/editors at ArchDigest

PROJECTS

Connecting Every Bit of Knowledge (Wikipedia's First Link Network)
- parsed all 4.6 million articles with supercomputer cluster; distributed 112 partitions of xml dump
- developed a graph algorithm in Python to map connections among the many events, objects, and figures

Tappt, *co-founder and full stack engineer* (tappt): interactively search video with human speech
- built logic to transcribe and index videos in Flask; designed UI and Javascript fuzzy search

Mathematics Association (MAA) Seaway Section 2012, gave cryptography talk on "Secret Sharing Schemes"
- explained how to distribute a secret among a group, which is revealed only if enough members come together

EDUCATION

University of Vermont, *M.S. Applied Mathematics (expected May 2016)*   Burlington, VT
Sole Course Instructor: Calculus I (72 students) and Calculus II (38 students)

Hamilton College, *Honors B.A. Mathematics, Magna Cum Laude*   Clinton, NY
19ᵗʰ Gold Scholar for student of "highest standards." *Phi Sigma Iota*: highest honor for foreign languages

Paris Institute of Political Studies, Sciences-Po *"ranked 4ᵗʰ in the world for political science"*   Paris, France
Full-year immersion program, exclusively in French