KENT GANG

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EDUCATION

University of Illinois at Urbana-Champaign December 2017
B.S. Engineering Physics Major – Computational Physics Concentration GPA 3.64/4.00
Mathematics Minor

WORK EXPERIENCE

Fannie Mae June 2017 – April 2019
Financial Economist I – Capital Markets Analytics

- Model Credit Risk Transfer (CRT) transactions in Python, accounting for deal terms such as maturity, delinquency and prepayment triggers, interest rate spreads, and sizing. Develop and maintain software for deal modeling, CRTpy, supplementing INTEX (cost of $10k/person/month licenses).
- Maintain and develop Tableau dashboards computing Conditional Prepayment Rates (CPR) and other time series for Mortgage Backed Securities (MBS), Mega pools, and Servicers.
- Develop Mortgage Backed Securities (MBS) time series forecast predictions and other models with techniques such as logistic regression, decision trees, random forests, MARS, Kalman filtering, and neural networks.
- Query Netezza and Oracle databases in SQL. Datasets were on the order of several million observations. Provide quality assurance of others' queries and provide optimizations.
- Provide ad hoc analysis related to macroeconomic conditions or historical trends at behest of other divisions and the conservator, FHFA.
- Price one-off bulk deal mortgage transactions with banks and other dealers.
- Interface with, execute and review others' work in R and SAS.
- Mentor others in Python including writing lessons on object-oriented programming and decorators.

RESEARCH EXPERIENCE

Kwiat Quantum Information Group September 2014 – November 2015
Undergraduate Research Assistant

- Program image alignment software in MatLab for noisy data transfer experiment.
- Study characteristics of a fiber optic cable fusion splicer.
- Assist with the polishing of fiber optic cables, laser alignment, and other preparations.

Fe, Co, Ni Adatoms Adsorbed on Silicene: A DFT Study September 2012 – September 2013
Primary Author

- Studied electromagnetic properties of silicene using *Quantum Espresso*, a computational tool implementing Density Functional Theory (DFT).
- http://digitalcommons.imsa.edu/cgi/viewcontent.cgi?article=1008&context=student_pr

SKILLSETS

Python	Pandas |NumPy | MatPlotLib | Scikit-Learn | Flask/Django
Other	R | Tableau | SQL | SAS | VBA (Excel) | Bash/Linux |ML/AI | HTML/CSS