

Kevin Egan

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EDUCATION

Ph.D. in Computer Science from Columbia University, 2011

Thesis: Frequency Analysis and Sheared Filtering for Multidimensional Effects in Rendering

Advisors: Ravi Ramamoorthi and Eitan Grinspun

Sc.B. in Computer Science from Brown University, 2003

AWARDS

- **NSF Graduate Research Fellowship, awarded for Computer Graphics.**

EMPLOYMENT

- **Quantitative Software Developer, Cubist PM Team:** New York, NY. 2021 - 2022
 - Wrote the prototype for our event-based trading system used in production and for backtests.
 - Used Python and C++ to read live tick data, improve our job system and incorporate elasticsearch.
- **Software Engineer / Quant Analyst, Syntropy PM Team:** New York, NY. 2015 - 2021
 - Optimized, managed and extended our production hessian-based portfolio optimizer.
 - Researched proprietary news features and developed an ML model that boosted signal strength by 25%.
 - Wrote a small python library for generating and ranking many ML model variants using AWS.
 - Wrote a simple and general bitemporal query library in Scala that leverages the file system to store data with an associated key and knowledge time.
 - Made many improvements to the robustness of core jobs and the job system, reducing the need for manual “ops” intervention by approximately 80%.
- **Software Engineer / Quantitative Analyst, D. E. Shaw:** New York, NY. 2011 - 2015
 - Developed an automated system for refitting forecast strengths that included running simulations at different strengths, running grids of simulations for highly correlated forecasts, fitting curves to results, and creating a report with recommendations.
 - Analyzed and refit one of the groups largest forecasts that included over 100 different equity index events.
 - Worked in a team of four to rewrite the interface to our simulator in Python making it possible to programatically launch, query, restart from state and control simulations.
 - Created new modelling tools and made improvements to our Python modelling infrastructure. One of two people in a group of 15 doing a significant amount of software development.
- **Research Intern, Pixar Animation Studios:** Emeryville, CA. 2009
Evaluated current and experimental shadow algorithms for Pixar’s next generation of lighting tools.
- **Rendering Software Engineer, Rhythm & Hues Studios:** Los Angeles, CA. 2004 - 2006
Worked on new techniques, enhancements, and bug fixes for the C++ software renderer as part of a five person team. My applied research for shadows and subsurface scattering has been used in films and commercials.

SELECTED FIRST AUTHOR PUBLICATIONS (additional information and images are available on my website)

- **Frequency Analysis and Sheared Reconstruction for Rendering Motion Blur, SIGGRAPH 2009**
A spacetime frequency analysis of motion blur leads to a novel sheared reconstruction filter.

SOFTWARE PROJECTS

- **Operating Systems Lab, Brown University, CS169:**
Wrote a basic Unix operating system in C that included a kernel, virtual file system, disk file system, and virtual memory system. Wrote a multi-processor version of the kernel as a side-project.