



DAN SCHNEIDER

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## Highlights:

- **MFA Visual Effects and MA Animation**
- **Pipeline Supervisor Digital Domain [Production Domains: Commercials/Episodics][Pipeline Domain: Houdini/Crowds]**
- **Sen FX TD Method Studios [Dr Strange] [Okja]**
- **Senior Technical Director Rising Sun Pictures [Gods of Egypt] [Game of Thrones se6] [X-Men: Apocalypse]**
- **MoCap/MoEdit Pipeline Technical Director Weta Digital [Hobbit3:Bo5A] [BFG], Wellington**
- **Senior Pipeline Technical Director at Newbreed VFX [Pyramid] [Horns], Montreal**
- **1+ years as Final Layout Output Technical Director at Dr D Studios [Happy Feet 2], Sydney**
- **2+ years as a Senior Technical Director 3D R&D at Charlex, NYC**
- **Author and maintainer of [www.eyevex.com](http://www.eyevex.com)** "Building Houdini Tools and scripts" TD Blog
- Experience in development of production tools, scripts, and general pipeline
- Thorough knowledge of Houdini including scripting languages and asset building and experience with devkit
- Extensive knowledge of Massive and dealing with production related issues and scripting
- Extensive knowledge of rendering, Mental Ray, and Renderman including shader writing
- MFA thesis hand coded in VEX to make basic neural operators for brain building; topic crowd sim related
- Regular SIGGRAPH annual conference attendee 13 annual conferences. Pioneer Membership.

## Skills:

- **Operating Systems:** Working knowledge of MS-DOS, Linux (KDE/GNOME/Xfce), MS Windows 3.x/NT4/9.x/2000/xp(pro), Vista/Windows7/8.x/10, Mac OS9/OSX.x, and Irix
- **Languages Proficient in:** MEL, RIB, RSL, MI, VEX, HScript, C/C++ (Houdini Dev Kit), Python (Houdini/HOM, Maya, Katana, Tank, Cortex, pySide, scipy, numpy), Houdini Expression Language, PERL, BASH, TCSH, various Massive ASCII file formats, asf/amc ASCII files, ActionScript, Rez related commands
- **Experience with:** Katana Node/Scenegraph API's, PHP, C++, Mental Ray SDK, metaSL, Houdini SDK, TK/TCL, MYSQL, Javascript, Blender Plugin API, HTML, XML, YAML, VBS (Wsscript), shotgun api, Shake script, Cmake
- **Applications Proficient in:** Houdini FX; Massive Prime; Autodesk Maya; Pixar's Renderman/ProServer; Mental Ray/MTOMR/StandAlone; Rush; SVN; git; Adobe After Effects, Premiere, Photoshop, Illustrator, Encore, Animate(Flash), Dreamweaver; GIMP; Cutter, Kate, Kdevelop, Eclipse; Inkscape; Painter
- **Experience with:** Unreal Engine; Foundry Nuke, Katana, Mari; Vray; Autodesk RV, Mudbox; Nuance; ClayTools, Zbrush; Vicon IQ; Natural Motion Endorphin/Euphoria; Condor; Discreet Flint (effect); Renderman for Maya; Arnold for Houdini, Motion Builder; Blender; Visual Studio; Shake, HDRShop; Cinepaint; Pro Tools, Flipbook, Wavelab; and Indesign; Ableton Live;



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## Work:

### **Digital Domain [Crowd Tech]—Los Angeles, USA: Pipeline Supervisor April 2017 --**

- **Designed Houdini Crowd Pipeline:** Data flow within crowds and between departments. Integration with existing department workflows and asset types including Animation, Rigging, FX and MoCap. Evaluation of previous show pipelines, and existing 3<sup>rd</sup> party applications.
- **Created and Supervised Creation of Extensive Python modules and HDAs:** Including agent assembly, motion editing, importing, lookdev, rigging, proxies, level of detail management, output, transition management, utilities and user facing tools and conveniences. Made use of Vex, Python, Hscript and Hexpression.
- **Held interdepartmental Cross-Site Crowd Technology Meetings:** Across crowds, animation, mocap, rigging, lighting and fx pipeline and technology to solve and coordinate crowd asset and pipeline technology needs.
- **Organized and Ran:** Regular meetings between production, developers and crowd artists to guide and coordinate development through artist feedback, production needs. and scheduling.
- **Consulted:** Advised Artists on crowd techniques. Interviewed crowd artists and made hiring recommendations.
- **Prioritized and Organized:** Task based ticketing and assignments to TDs and Tech across departments.
- Granulated larger development tasks and made schedules for production to coordinate tech with artist needs.
- **Worked with Software Vendor:** to debug, implement features get RFE's and documentation.

### **Digital Domain [Commercials/Episodics][A Series of Unfortunate Events eps: 2.1 2.7 2.8 2.9 2.10 3.1 3.2 3.3 3.4 3.6 3.7][Outlander eps: 3.12 3.13][TV Commercials]—Los Angeles, USA: Pipeline Supervisor Jan 2017 --**

- **Manged and Curated Production Pipeline:** Coordinated changes with facility roll-outs. Curated task based roles appropriate to project, spot, or episode. Managed preferences and software package dependencies.
- **Supervised and Met Pipeline needs for 2 seasons:** Managed show pipeline transition to a new facility location between se2 and se3. 2017-18 [A Series of Unfortunate Events]
- **Organized Meetings:** Priorities meetings with production to coordinate efforts and address pipeline concerns. Assessed technological needs by correspondence with dept leads and supervisors
- **Prioritized and Distributed Tickets:** Ticketed TDs for bugs and RFE requests coordinating with other supervisors and productions. Corresponded with 3<sup>rd</sup> party software for managing outside bugs and support.
- **Worked and Coordinated Across Multiple Sites:** Los Angeles, Vancouver and Hyderabad.
- **Trouble Shooting:** Environments, show software packages and ecosystem. In session issues with Maya and Houdini. In-depth analysis of package structure and modulation.

### **Method Studios [Dr Strange][Okja]—Vancouver, Canada: Sen FX TD June 2016 – Nov 2016**

- **Dr Strange. Completed shot content and created tools for Tea Room Seq:** Fractal floor tile animation and procedural geometry creation, animation and rendering of fractal shockwave eruption through tea room floor in Houdini utilizing assets, encapsulated networks, turtle, python (HOM), Hscript, VEX and VEX expressions.
- **Okja. Created Fluid Shot Content:** Made use of encapsulated networks, scripted operators, dynamics via use of FLIP fluids, particle systems and procedural geometry in Houdini.



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### **RSP [Gods of Egypt][GOT se6][X-Men Apocolypse]—Adelaide, SA: Sen TD July 2015 – May 2016**

- **Created and Implemented Houdini Massive Arnold Crowd Rendering:** Python API for Massive and Arnold crowd file types, geometry material mapping aggregator/resolver integrated with asset manager, python lib for editing crowd files, Houdini HDA upgrades for crowd editing, creation of new HDA and VEX based nodes for crowd edits, runtime render engine injector for Arnold materials.
- **Design and Implemented Houdini Pipeline Overhaul:** Modularization and creation of versions pipeline packages for inhouse software and HDA based toolsets, creations of HSITE package and centralizing configuration and UI integration, implementation of standards for HDA and py lib authoring and standardizing preexisting tools and libs, removal and consolidation of bloat and redundancy across departments.
- **Design and implemented Houdini “Assetizer” and modular HDA asset workflow:** Round trip editing with Logic and Data separation and integration with preexisting publishing systems, Python api creation, native OTL manager replacement, HOM extent ions for presets, Htool, and HDA; high level integration for asset importing, creation, forking, cross shot use, editing, pipeline info tagging, in-session version rolling, publishing, render system integration and override system; custom programmatic Htool script creation and insertion.
- **Houdini Pipeline Authoring Dev Suite:** High level integration of in-house project management and deployment system and SVN into Houdini UI for quick and easy creation of pipeline standard conforming HDAs and pipelin packages; Automated creation of templates for Houdini envs and folder structure, integration of standard svn commands including revert, commit, checkout, status, update, log, add; custom ui extensions for manipulating HDA comments and logs, custom tool scripts, TAB menu editing and manipulation, preset IDX archive insertion; upgraded help card generation wizard; creation, forking of pipeline HDAs; swapping individual, all or selected hdas between deployed and dev versions; sanity checking wizard with feedback recommendations; project visioning, deployment and testing ui integration of in-house py libraries
- **Upgraded Created and Consolidated Various File Utilities and UI Utilities:** Created a parm reference tree navigator allowing navigation of dependencies in parameter references, created parameter dereferencing system allowing referenced values in expressions to “bubble up”, Automated cache setups for VDB/ABC/BGEO caches, high level scratch caching utility HDA for WIP, save replacements for hip files, standardizing names and allowing major/minor visioning and relocation to per-determined locations.

### **Weta Digital [Hobbit 3: Bo5a][BFG]—Wellington, NZ: Motion Capture Pipeline TD Sep 2014 – Mar 2015**

- **Implemented Tools for manipulation and modification of small crowds in MoEdit:** Asset manger IO integration, GUI tools for loading, saving, asf/amcs and swapping crowd proxies from Nuance, file processing outside of application to setup small crowds for Motion Editing, and for removing setup pre-publish.
- **Created Solution for generation of crowd and proxies in MoEdit:** Automated proxy generation including skeleton/asf reduction, geometry reduction, modifications for temp MoEdit usage, compliant with Nuance, configurable for dept scenarios, individual or show-wide missing or force all gen and publish, CLI's, admin GUI.
- **Updated and enhanced in-house Motion Edit software for interfacing with commercial solutions:** asf loading, version updating of motion, skeletons, or creature on load, test utilities, GUIs, and general py/qt development
- **Created Custom timecode utilities in MocAp:** Encoding/decoding timecode making use or user field info.
- **Developed Audio and edit utility libraries in MoCap:** extracting and decoding bwav info chunks.



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### **Newbreed VFX [Pyramid] [Horns]—Montreal, CAN: Sen Pipeline Technical Director Jan 2013 - 2014**

- **Implemented Houdini pipeline:** Automation layer, associated GUI tools, and HDAs on top of Native OTL manager allowing asset manager integration and synchronization. Hsite deployment; Shot level asset system with in-session GUI round-trip editing and publishing of otls .
- **Houdini I/O:** Remote Alembic exporter (python libs 2 HDA Rops); Renderfarm Integration (Rop Nodes and Houdini ROP to Condor dependency solver), render scripts ; Environment configuration, KDE integration
- **Maya role geoCaching:** Alembic exporter python api MEL wrapper; Auto department sensitive generation of abc export jobs (including role assets, Katana SceneGraphXML, asset manager specific data), XML spec for Alembic job creation, and publishing on main dept asset publish;
- **Maya I/O and environment:** GUI SaveAs native UI replacement integrating asset management system; userSetup replacement for cascading initializations via rez; In-house file menu replacement
- **Katana Auto Shot building for lighting and lookdev:** role gathering sceneGraphXML generation, 1-click shot build with all models or animated geoCaches, materials, camera and layout as needed
- Rez templates for 3D applications, general pipeline support, development, and package managing

### **Simulacra Software—New York Area: Founder/Developer, March 2012 –**

- Independent Research and Development of Houdini Tools, Libraries and Plugins
- HDA/”Smart Asset” development predominantly for anticipated release on Orbolt App Store
- Library development in Python, C++/HDK, Hscript

### **Dr D. Studios [Happy Feet 2]—Sydney, AU: Final Layout Output TD, July 2010 – Nov 2011**

- Implemented initial Final Layout Dept Pipeline Layout
- **Created and maintained mass instancing solution for setdressing:** GUI tools (Houdini/Maya), HUD(maya); file specifications, keyshot/shot inheritance system, I/o, publishing and asset tools ( Houdini/Maya); Cortex procedural, and Renderman(3Delight) runtime helper procedural
- **Created and maintained Footprint placement tools for paths/areas** (Houdini): 7 HDA nodes, Python Sop; GUI tools, interactive editing tools; geometry generation, and override/refinement system
- Implemented Final Layout Auto Rigging, shot-building, and I/O scripts and utilities (Maya)
- Displacement cheating/editing tools (Houdini)
- Assorted Final Layout tools, scripts, pipeline, artist utilities, tools, HDAs/OtIs

### **Charlex—New York, NY: Senior Technical Director 3D R&D, March 2008 – April 2010**

- **Credited as Pipeline on *Shape Shifter*, a short film** <http://motionographer.com/theater/shape-shifter>
- Created and maintained of lighting, pass, and rendering tools for Maya/MTOMR
- Integrated Houdini into existing pipeline
- Expanded Massive configuration and integration with pipeline applications
- Created and maintained Shader Bank of all shader sources and expedited Windows/Linux compilation scripts
- Created and maintenance of project and rendering assets (OTLs) for Houdini
- Wrote custom Mental Ray C++ shaders and maintained preexisting shaders
- Upgraded pipeline to 64-bit for 3D applications and rendering
- Wrote and maintained preexisting Rush renderfarm submission and render scripts for 3D applications including Maya (Soft/Batch/Mental Ray), Massive/Mental Ray, Houdini/Mantra
- Implemented and revised file post processing and pre-render processing scripts for Massive and Maya
- Scripted Workstation 3D application environment configurations
- Beta Tested and evaluated applications and recommended potential integration
- Compiled assorted plugins, scripted, and general pipeline work



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## **Savannah College of Art and Design—Savannah, GA: Systems Administrator Oct '04 – Jan '08**

- **Spearheaded investigation into Massive Prime and implementation of pipeline integration**
- Created system Image and application testing
- performed Renderfarm render troubleshooting and problem reports
- Scripted, and general updating, problem reports, troubleshooting, repairs, and workstation maintenance

## **Exhibition**

- Featured in *Collisions* Gallery Group Exhibition, Mary Benson Gallery, Jersey City, NJ Nov '08 – Dec '08
- Starred in *Feathers*, a short film by Alex Blosser, 2007
- Photography exhibited at Shop SCAD May-Oct 2007
- Work Featured in *Dear Media, Do we See in RGB?* Exhibition of experimental video installations, De Soto Row Gallery, Georgia Aug 2006
- Work shown in Winter Visual FX show '06 at Trustees Theater at SCAD
- Solo Artist featured at Twirl, 23<sup>rd</sup> St. NYC from 8-18-01- 8-25-01
- featured in Student shows '99, winter '00, Spring '00, Senior Show '00 at SUNY Oneonta
- Cartoonist at The Stony Brook Press 1996-1997

## **Education:**

### **Master of Fine Arts in Visual Effects & Master of Arts in Animation**

Savannah College of Art and Design (SCAD), *Graduated November, 2006*

- Teaching Internship: Modeling Surfaces and Shaders I, Renderman RSL, RIB, MTOR, and Maya
- Research and Development for **AL Fuzzy Logic VEX operators** for MFA thesis
- Procedural and Particle Animation, Rendering, Procedural Texturing, Programming, Digital Matte Painting, Storyboarding, Previsualization, Digital Compositing
- 3d Modeling and Animation, Classic Animation, Alternative Methods of Animation, Motion Capture, Gesture Drawing, Experimental Film
- Photography, Shakespearean Acting, Motion Graphics, Art History, and Media Theory

**SIGGRAPH Courses: Deep Learning for Content Creation** Digital Face s, Crowd Simulation, Global Illumination, Motion Capture, Urban Design and Procedural Modeling, and Camera Arrays

**Nvidia Deep Learning Institute [SIGGRAPH 2018]:** Character Animation using Phase-Functioned Neural Networks, Deep Reinforcement Learning Agents on Atari Games with TensorFlow , Image Creation using GANs with TensorFlow & DIGITS, Analogous Image Generation using CycleGAN

*SIGGRAPH '17/'14/'12/'08/'07/'06/'05/'02/'01/'00/'99 full conference attendee '18/'13' select DIGIPRO '18/'17*

### **Bachelor of Arts in Art Studio & Bachelor of Arts in Music Industry**

State University of New York College at Oneonta, *Graduated August, 2000*

**Liberal Arts coursework** at State University of New York University at Stony Brook. 1996-'97

- Teaching Assistant for Comp Art I 'Spring '00, Studio Assistant '99-'00 at SUNY Oneonta





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- 2D and 3D Design, Drawing, Art History, Computer Art, Digital Video, Web Design, Audio Arts,
- Mass Communications, Film Production, Acting, Film History/Analysis, Story Boarding, Writing for TV/Radio/Film, Marketing, Merchandising, Creative Writing, Music Theory, History, and Analysis

## **Activities:**

### **Author and Maintainer of [www.eyevex.com](http://www.eyevex.com): Building Houdini Tools and Scripts** TD blog

- Educational resource documenting development of production ready scripts mostly in hscript and python
- Free download of all code demonstrated with inline documentation and GUI shelves and icons
- Top 10 google result for *Houdini Hscript* and most top 10 results related for *houdini TD blog*
- A series of posts late 2012 received over 600 views from over 300 visitors first 24 hours of posting

### **SLR Photography**

- Over 20 years of total photographic experience in outdoor, portraits and nudes, studio, still life
- Avid digital photographer and image manipulator since 1997
- Extensive B&W Darkroom and Development experience including traditional cleaning and editing techniques

### **Fine Arts and Music**

- Regular life drawing and documenting the people in the various cities I have lived
- Volunteer and assist at Rota Gallery, a non-profit co-op gallery educating in the arts 2014
- Enjoy traditional Illustration and ink drawing for small projects or recreation
- 15+ years of regular string playing recently focusing on bass, and casual player of numerous instruments
- Digital painting and printing

### **More**

- Interest in AI Machine learning and Fuzzy Logic and enjoy coding, reading theory, and taking courses or tutorials.
- Can be found on houdini listserv, odforce, and other forums or reading about math, physics, art and media theory
- Regular consumer of music and movie media, when not trying to make it to a movie theater or concert venue