

## SUMMARY

- REDESIGNED THE RIGGING SYSTEM ON ELECTRONIC ARTS LARGEST TITLE: MADDEN NFL; & CONVERGED ILM'S OSCAR NOMINATED JANGO FETT WITH EMMY AWARD WINNING AHSOKA TAND INTO A PLAYABLE BUILD ON THE XBOX
- FORMER BEST PRACTICES REVIEW COMMITTEE AND EXECUTIVE TRAINEE OF LUCASFILM SELECTED BY THE FORMER CTO OF PETER JACKSON'S WETA DIGITAL WITH WORK SHOWN DIRECTLY TO GEORGE LUCAS
- CEO'D A STARTUP WHERE I INVENTED AN AUTORIGGER THAT RIGS/SKINS CHARACTERS AT THE LEVEL OF ILM THAT AUTOMATES 80 HOURS OF RIGGING WORK INTO 15 MINUTES & IS VALUED BY 3 FORTUNE 500'S AT 20 MILLION IN 5 ACQUISITION TALKS
- CEO'D A STARTUP WHERE 250 SCHOOLS ON 6 CONTINENTS WERE LICENSED MY AUTORIGGER IN 6 MONTHS AT A PACE OUT PENETRATING FACEBOOK LLC'S FREEMIUM MODEL IN UNIVERSITY ACCEPTANCE PRE "SERIES A" INVESTMENT FOLLOWED BY WEBINARS
- FORMER INTERIOR ARCHITECT AT THE TWO LARGEST ARCHITECTURAL FIRMS WORLDWIDE, #1 GENSER AND #2 NBBJ, WHOSE ARCHITECTURAL PRINCIPALS CAN BE APPLIED TO A VIDEO GAME ENVIRONMENT OR LEVEL DESIGN
- EVENTUAL GOAL: CHIEF VISUAL OFFICER AT A MAJOR VIDEO GAME PUBLISHER WHERE ANNUAL EARNINGS ARE 600K TO 800K BASE, PLUS 1 TO 2 MILLION IN BONUS, AND 3 TO 7 MILLION IN STOCK



AWARDED 1 OF TOP 100 PEOPLE IN TECHNOLOGY:

ENDORSEMENT FROM ONE

OF THE MOST RESPECTED

IN THE ANIMATION

INDUSTRY (THE SIGGRAPH

CHAIR) REFERRING TO MY

TECH AS "MINDBLOWING"



MY TECHNOLOGY FEATURED @ MY BOOTHS @ SIGGRAPH &amp; GDC

MY TECHNOLOGY IN THE CLASSROOM

(250 UNIVERSITIES ON 6 CONTINENTS RECEIVED PRODUCT)

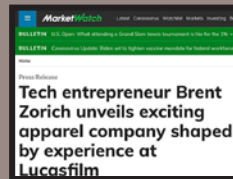
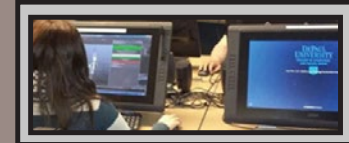
NOTE: SOPHOMORES IN COLLEGE ARE ABLE TO RIG CHARACTERS

AT THE LEVEL OF ILM DUE TO MY TECHNOLOGY.

FEATURE ABOUT ME IN

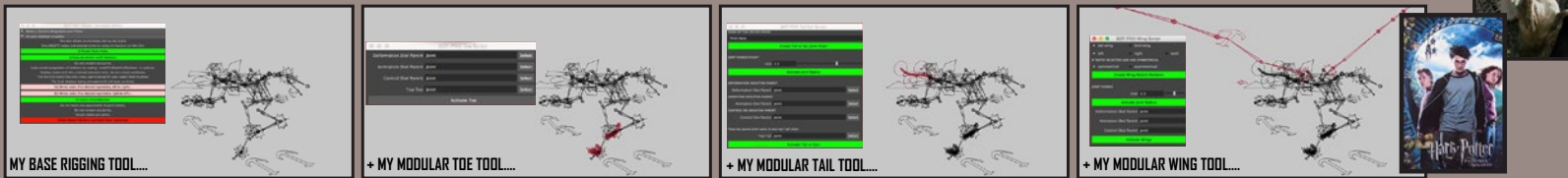
"THE WALL STREET JOURNAL"

(MARKET WATCH)



MODULAR RIGGING DESIGN ENGINEERING CASE STUDY ON BUCKBEAK FROM 'HARRY POTTER AND THE PRISONER OF AZKABAN' WITH MY SOFTWARE I AUTHORED: 90 HOURS OF WORK COMPLETED IN 5 MINUTES.

NOTE: POSITIVE ACKNOWLEDGEMENT DUE TO ENGINEERING PRESENTATION FROM THE FRAMESTORE CFC WHO MADE THE ACTUAL OSCAR NOMINATED "BUCKBEAK"



## VITA

## ENTREPRENEURIAL VENTURES

BZP PRO MODULAR RIGGING ENGINEERING SYSTEM DESIGN ARCHITECT

"SKETCHES OF BRENT ZORICH" : A CLOTHING LINE

VOXX STUDIOS RIGGING PROTOTYPING

ADOBE, INC. PRE RELEASE TEAM

DRA (DESIGN REPLACES ART) SOFTWARE ARCHITECT

WALT DISNEY FEATURE ANIMATION RIGGING PROTOTYPING USING MY BZP PRO SOFTWARE

SONY PICTURES ENTERTAINMENT RIGGING PROTOTYPING USING MY BZP PRO SOFTWARE

BZP PRO "SMART SKINNER" RIGGING PIPELINE SOFTWARE ARCHITECT/ CEO/ COFOUNDER

## TECHNOLOGY ENTREPRENEUR

(MODULAR SETUP ON WINGS, TAILS, TOES, BASE THAT COMPLETED UP TO 90 HOURS OF ILM LEVEL RIGGING IN 10 MINUTES)

(FOUNDER/ CHIEF EXECUTIVE OFFICER/ CHIEF VISUAL OFFICER == SHOWN ON FOX NEWS, NBC, CBS, &amp; USA TODAY AFFILIATES)

(NDA RIGGING WORK VIA VITRUVIAN ENTERTAINMENT)

(PHOTOSHOP QA TESTING TEAM FOR APPLE'S IPAD PRO 2: GETTING ADVANCED COPIES AND TESTING ON BETA SOFTWARE)

(TECHNOLOGY THAT ENHANCES A CONCEPT ARTIST'S ABILITY TO DESIGN CHARACTERS FROM SALES METRICS, NOT RANDOMIZATION)

(INCORPORATING MOTION CAPTURE HIK TO DISNEY FEATURE RIGS FOR "PROOF OF CONCEPT"- TESTED ON DISNEY'S "VAMPIRINA")

(DAVID BAUTISTA FROM "GUARDIANS OF THE GALAXY VOL 2" AND 240 HOURS OF ILM LEVEL RIGGING COMPLETED IN 70 MINUTES)

(WORKFLOW FROM ART=&gt; SKELETON=&gt; SKINNING=&gt; ILM LEVEL CONTROL RIG/ MOCAP=&gt; IN GAME OPTIMIZED == 80H LABOR IN 15M)

## 2011-CURRENT

'22

'21-CURRENT

'20

'19-CURRENT

'19-CURRENT

'18

'17

'11-CURRENT

- MADE SUCH ENORMOUS STRIDES AS AN ENTREPRENEUR THAT MICHAEL JACKSON'S PR CONTACTED ABOUT PERSONALLY REPRESENTING ME.
- WHEN BZP WAS FEATURED AT SIGGRAPH AND GDC IN MY OWN BOOTHS 7 MILLION IN VERBAL SALES COMMITMENTS WERE GENERATED.
- ADVISED BY ILM COFOUNDER AFFILIATE TO NOT SELL BZP FORMULA I WROTE IN ACQUISITION BELOW \$20 MILLION.
- LECTURED AT OVER 40 UNIVERSITIES SHOWCASING BZP TECHNOLOGY.
- BZP FEATURED ON THE COVER OF A WORLDWIDE MAGAZINE FOR TECH I WROTE MYSELF IN MEL AND PYTHON.
- BZP TECH BURNED TO WORLDWIDE MAGAZINE'S INCLUDED ACCOMPANYING DVD.
- 250 UNIVERSITIES ON 6 CONTINENTS WERE LICENSED MY AUTORIGGER IN 6 MONTHS AT A PACE OUT PENETRATING FACEBOOK LLC'S FREEMIUM MODEL IN UNIVERSITY ACCEPTANCE PRE "SERIES A" INVESTMENT.
- INTERVIEW, SCREEN, AND NEGOTIATE WITH VENTURE CAPITAL FIRMS FOR BZP EQUITY INCLUDING THE FIRM OF KEVIN O'LEARY (ABC'S SHARK TANK): RAISED INVESTMENT MONEY FOR BZP FROM BANKING ALUM OF HARVARD AND YALE.
- NOTE: MY LLC, BZP PRO, HAS BEEN UNDER ACQUISITION REVIEW FIVE TIMES WITH THREE SEPARATE FORTUNE 500 COMPANIES DUE TO TECHNOLOGY I WROTE ENTIRELY MYSELF AND BROKERED BY GOLDMAN SACHS ALUM FROM HARVARD.

## SOFTWARE EXPERIENCE

MAYA (MASTER LEVEL OF EXPERIENCE), MOTION BUILDER, MEL, PYTHON, PHOTOSHOP, ZENO (ILM'S SOFTWARE), AFTER EFFECTS, FINAL CUT, VRML, PIXAR'S RENDERMAN, SLIM, HTML, C++, HIK CUSTOMIZATION AND AUTOMATION FOR MOTION CAPTURE

## EDUCATION &amp; AWARDS

BSID: BACHELOR OF SCIENCE INDUSTRIAL DESIGN AT THE OHIO STATE UNIVERSITY: 1998

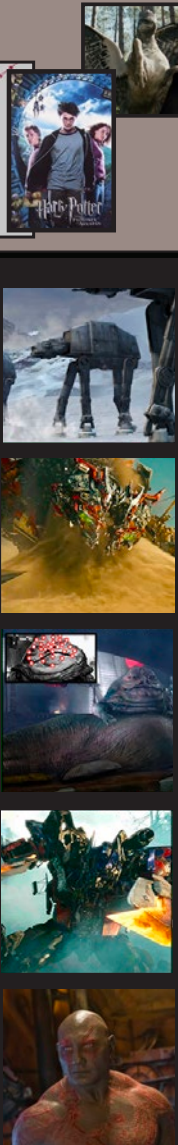
SENIOR THESIS CLIENT: NIKE - PRODUCT INVENTION AND CATCH PITCH: REEBOK

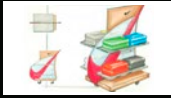
MA: MASTERS OF ARTS AT THE ADVANCED COMPUTING CENTER FOR THE ARTS AND DESIGN (ACCAD) AT THE OHIO STATE UNIVERSITY: 2011 GRADUATE ACADEMIC ADVISOR FOUNDER AND FORMER HEAD OF THE COMPUTER ANIMATION DIVISION AT RINGLING SCHOOL OF ART &amp; DESIGN

CONTINUING STUDIES SPECIALIZING IN LINEAR ALGEBRA AND ENGINEERING AT STANFORD UNIVERSITY: 2020

AWARDED "ONE OF THE TOP 100 PEOPLE IN TECHNOLOGY AND INNOVATION" ACCORDING TO THE INTERCON CONFERENCE SPONSORED BY FACEBOOK &amp; AMAZON.

MEMBER OF SIGMA ALPHA EPSILON FRATERNITY (THE NATION'S LARGEST FRATERNITY)





THE OHIO STATE UNIVERSITY

COMPLETED INCOMPLETE MASTERS DEGREE FOCUSING ON DINOSAUR PYTHON AUTORIGGING

2010-2011

LUCASFILM, LTD.

SENIOR TECHNICAL ARTIST (CORPORATE EXECUTIVE TRAINEE - BEST PRACTICES STEERING COMMITTEE)

2008-2009

- “STAR WARS THE FORCE UNLEASHED ULTIMATE SITH EDITION”
- “INDIANA JONES AND THE STAFF OF KINGS”
- “STAR WARS THE CLONE WARS: SEASON TWO”
- “TRANSFORMERS REVENGE OF THE FALLEN”
- “STAR WARS THE FORCE UNLEASHED II”
- “HARRY POTTER AND THE HALF BLOOD PRINCE”

(LEAD CHARACTER TECHNICAL CONSTRUCTION AND SUBMITTED CONCEPT ARTWORK)

(CHARACTER TECHNICAL CONSTRUCTION AND CHARACTER DEFORMATION R & D)- A STEVEN SPIELBERG PROJECT

(COLOR CORRECTION & COMPOSITING ON TWO EPISODES FEATURING CAD BANE AND OBI-WAN KENOBI)- SHOWN AT ANNUAL FIRM WIDE MEETING

(SHOT APPROVAL IN DAILIES AT WEEKLY INDUSTRIAL LIGHT & MAGIC CREATURE R & D MEETINGS FEATURING OPTIMUS PRIME AND DEVASTATOR)

(INITIAL KICKOFFS, SHARED ASSETS, FILE MANAGEMENT, CHARACTER TECHNICAL CONSTRUCTION RESEARCH AND DEVELOPMENT)

(SHOT PREP FOR MONTHLIES APPROVED BY THE HEAD OF ILM SINGAPORE- SHOTS INCLUDE HARRY POTTER AND PROF DUMBLEDORE)

- KEY ACHIEVEMENT: DUE TO BEING ONE OF THE TOP PEOPLE IN THE TOP COMPANY IN COMPUTER ANIMATION/ GRAPHICS/ AND VIDEO GAMES, PROMOTED, SALARY INCREASED, AND RELOCATED FROM SINGAPORE TO SAN FRANCISCO AFTER ONLY FIVE MONTHS.
- INVITED BY THE DIRECTOR OF ANIMATION TECHNOLOGY, FORMER CTO OF PETER JACKSON'S WETA DIGITAL (LORD OF THE RINGS), TO BE ON THE STEERING COMMITTEE SETTING “BEST PRACTICES” FOR LUCASARTS, LUCASFILM ANIMATION, AND ILM.
- INVITED TO THE PRESTIGIOUS SKYWALKER RANCH ON NUMEROUS OCCASIONS TO OBTAIN EXTENSIVE RESEARCH THAT WAS INCORPORATED INTO CHARACTERS BOBA FETT AND JABBA THE HUTT.
- CONVERGED THE EMMY AWARD WINNING FILM AHSOKA TANO WITH ILM'S OSCAR NOMINATED JANGO FETT INTO AN OPTIMISED CHARACTER WORKING IN THE UNREAL ENGINE THAT WAS APPROVED DIRECTLY BY MR. GEORGE LUCAS IN SINGAPORE.
- REFERRED TO BY THE PROJECT MANAGER ON THE FILM GAME CONVERGENCE CREW IN SINGAPORE, WHO WAS A TEN YEAR SONY VETERAN AND HAD WORKED IN GAMES SINCE THE 1980'S, AS THE “TOP RIGGER” IN THE INDUSTRY.
- DUE TO THE ASTONISHMENT ON THE SINGAPORE FLOOR OF THE TECHNICAL TEAM AFTER I TECHNICALLY CONSTRUCTED ONE OF MY CONVERGENCE RIGS, I BEGAN TO BE REFERRED TO ON THE FLOOR AS “GOD.”
- CHARACTER EXPLORATION, DOCUMENTATION, AND BENCHMARKING, OF STAR WARS IP RIGGING ASSETS SUCH AS GENERAL GRIEVOUS, THE EMPEROR, AHSOKA TANO, KIT FISTO, LORD VADER, AND ANAKIN SKYWALKER, IN SINGAPORE.
- QUALITY ASSURANCE, ANIMATION CYCLE TESTING, EXPLORATION, AND TECHNICAL DOCUMENTATION ON STANDARD ILM BIPED, QUADRUPED, AND WINGED CHARACTERS IN SINGAPORE.
- INVITED INTO HIGHLY COVETED CREATURE RESEARCH AND DEVELOPMENT MEETINGS AT INDUSTRIAL LIGHT & MAGIC AFTER DEMONSTRATING TECHNICAL ABILITY TO ILM DEPARTMENT SUPERVISOR.
- ADMITTED INTO LUCASFILM EXECUTIVE TRAINING VIA ENGAGED LEADERSHIP LLC AFTER PROVING STRONG LEADERSHIP QUALITIES FOR THE TEAM. I WENT THROUGH EXEC TRAINING BEFORE MY OWN MANAGER.
- THE PRESIDENT OF LUCASARTS POSITIVELY REVIEWED MY EXECUTIVE PROPOSAL ENTITLED OFFENSIVE ATTACK STRATEGY ABOUT ATTACKING LUCASFILM OPPOSITION AND PASSED IT ON TO THE BOARD OF DIRECTORS.
- EXECUTIVE RECRUITING: AFTER THE FIRM WIDE VIEWING OF QUANTUM OF SOLACE, THE VICE PRESIDENT OF LUCASARTS HAD ME ACCOMPANY HIM TO LUNCH IN SAUSALITO TO ASSIST WITH RECRUITING CORPORATE STAFF OF ELECTRONIC ARTS (EIFA) FOR LUCASFILM.
- ONE OF THE CHARACTERS COMPLETED WITH UNDER MY LEAD TECHNICAL DIRECTION, ULTIMATE EVIL, WAS CHOSEN AS THE COVER OF STAR WARS THE FORCE UNLEASHED, A VERY PRESTIGIOUS HONOR.
- DOCUMENTED AND EXTRACTED KEY ASSETS OF ILM'S RIGGING SOFTWARE, BLOCK PARTY 1, TO DO QUALITY ASSURANCE AGAINST AUTODESK MAYA FOR MULTI DIVISIONAL USAGE.

EA SPORTS (ELECTRONIC ARTS)

ASSOCIATE TECHNICAL ARTIST (LEAD RIGGER ON CENTRAL FOOTBALL)

2005, 07-08

- “MADDEN NFL 08”
- “EA SPORTS MMA”
- “NFL TOUR”
- “MADDEN NFL 09”
- “SUPERMAN RETURNS”
- “NBA LIVE 09”
- “FACEBREAKER”
- “HARRY POTTER (ORDER OF THE PHOENIX)”

- “NCAA FOOTBALL 08”
- “TIGER WOODS PGA 09”
- “NFL HEAD COACH 09”
- “NCAA FOOTBALL 09”

(SHOULDER PAD RESEARCH AND DEVELOPMENT, FOOTBALL PLAYER SKINNING)

(PROTOTYPE RIG DEVELOPMENT)

(IN CHARGE OF CHARACTER TECHNICAL CONSTRUCTION FOR ALL CHARACTERS IN TITLE)

(IN CHARGE OF CHARACTER TECHNICAL CONSTRUCTION FOR ALL CHARACTERS IN TITLE- KEY STANDARDS: BRIAN URLACHER, DREW BREESE, TERRELL OWENS)

(CHARACTER TECHNICAL CONSTRUCTION OF DRAGON VILLAIN CHARACTER, CITIZEN MODELING, AND MODELING OF LEX LUTHOR'S WARDROBE)

(GLOBAL RIGGING GUIDANCE BETWEEN EA ORLANDO AND EAC VANCOUVER'S BODYSHOP) - RIG SWAPPING

(GLOBAL RIGGING GUIDANCE BETWEEN EA ORLANDO, EA LONDON, AND EAC VANCOUVER'S BODYSHOP) - RIG SWAPPING

(GLOBAL RIGGING GUIDANCE BETWEEN EA ORLANDO, AND EA LONDON) - RIG SWAPPING

- KEY ACHIEVEMENT: SALARY INCREASED AFTER ONLY THREE MONTHS WITH LINKEDIN ENDORSEMENTS FROM BOTH MY MANAGER (THE DEV DIRECTOR OF CENTRAL RENDER) AND THE MAIN PRODUCER OF MADDEN NFL.
- PITCH TO HEADS OF CENTRAL FOOTBALL ABOUT EA SPORTS WORKING WITH NIKE TO COLLABORATE ON BIOMECHANICS AND MOTION CAPTURE AFTER REQUESTED HOW TO IMPROVE THE TEAM.
- REDESIGNED THE FOOTBALL RIGGING SYSTEM BASED ON ANATOMICAL PROPORTIONS AS OPPOSED TO CARTOONY EXAGGERATION THAT USED THE STUDIO CUSTOM QUATERNION NODE AND WAS IMPLEMENTED ON ALL FOOTBALL TITLES GOING FORWARD.
- PARTIALLY DUE TO MY REDESIGNED RIGGING SYSTEM, MADDEN NFL XX (MADDEN NFL 09) RECEIVED THE HIGHEST REVIEWED SCORE (9.1) OF ANY MADDEN OVER THE LAST 20 YEARS ON IGN SINCE MADDEN NFL 04.
- 10,000 ANIMATIONS (ENTIRE FOOTBALL ANIMATION LIBRARY) RETARGETED TO MY RIGGING SETUP'S REDESIGN ON EA SPORTS TOP GROSSING MULTI BILLION DOLLAR ANNUAL TITLE: MADDEN NFL (CENTRAL FOOTBALL).
- DUE TO THE ART DIRECTORS ON CENTRAL FOOTBALL BEING CONCERNED THAT I WAS GOING TO LEAVE THE STUDIO AFTER ONLY TWO MONTHS DUE TO MY FRUSTRATIONS WITH THE EA ORLANDO LACK OF TECHNICAL KNOWLEDGE, THEY TOOK ME TO LUNCH AND SOLD ME ON STAYING FOR AN ADDITIONAL YEAR, CLAIMING ME TO BE ONE OF THE TOP TALENTS IN ALL OF EA.
- DUE TO THE REMARKABLE JOB DONE DURING THE SUPERMAN RETURNS INTERNSHIP, MANAGEMENT AWARDED THE TASK OF CREATING LEX LUTHOR'S WARDROBE (THE GAME HERO CHARACTER)- TYPICALLY ASSIGNED TO A SENIOR DIRECTOR.

2K SPORTS (TAKE 2 INTERACTIVE)

CHARACTER TECHNICAL DIRECTOR

2006

- “COLLEGE HOOPS 2K7”
- “COLLEGE HOOPS 2K8”

- “NBA 2K8”

(SHOULDER DEFORMATION TWEAKING, CHEERLEADER CHARACTER TECHNICAL CONSTRUCTION)

(CHARACTER TECHNICAL CONSTRUCTION RESEARCH AND DEVELOPMENT- TESTED ON DATA OF SHAQUILLE O'NEAL)

DREAMWORKS SKG OUTREACH PROGRAM

PARTICIPANT VIA OSU TRAINED BY A COLLECTIVE GROUP FROM SHREK, MADAGASCAR, SHARK TALE, & SPIDER-MAN 2

2005

BRAVE NEW PICTURES (THE DISCOVERY CHANNEL)

CHARACTER TECHNICAL DIRECTOR/ ANIMATOR/ COMPOSITOR/ MODELLER

2003-2005

- “THE MYSTERY DINOSAUR”

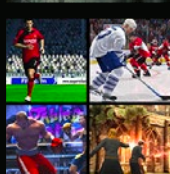
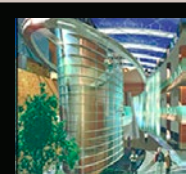
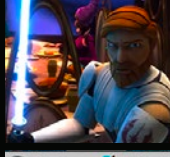
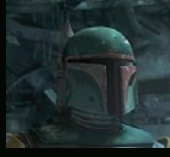
(RIGGING, ANIMATING, AND COMPOSITING OF PHOTOREAL DINOSAURS FOR NATIONAL TELEVIEWED “WALKING WITH DINOSAURS” PIECE.)

(WORKED WITH PALEONTOLOGIST TEAM THAT ADVISED ON SPIELBERG'S JURASSIC PARK)

PRIOR WORKED AS AN INTERIOR ARCHITECT AT **GENSLER** (#1 RANKED DESIGN FIRM WORLDWIDE '99-01) AND **NBBJ** (#2 RANKED DESIGN FIRM WORLDWIDE '98-99)

- VOLKSWAGEN** (DESIGN DEV & CONSTRUCTION DOC)
- LINCOLN MERCURY** (DESIGN DEV)
- ADIDAS** (STORE AUDITING)
- THE REPUBLIC OF CHINA** (DRAFTING)

(CAN APPLY STATIAL DESIGN, ARCHITECTURAL, AND WAYFINDING THEORY TO VIDEO GAME LEVELS/ ENVIRONMENTS)



# ENTREPRENEURIAL ACCOMPLISHMENTS TO PRESENT FOR HIRE TO A MAJOR GAME STUDIO AS A CHIEF VISUAL OFFICER (MASTERING THE BUSINESS MODEL OF BILL GATES, STEVE BALLMER, PAUL ALLEN, AND MARK ZUCKERBERG)

## 1. FORMATION

### IDENTIFY THE PROBLEM AND CONCEPTUALIZE THE LLC

CAN IDENTIFY A WORK PROCESS THAT IS IN NEED OF AUTOMATION IN THE INDUSTRY AND FORM A LLC THAT BRINGS ON PARTNERS FOR EQUITY TO ADDRESS THAT PROCESS

==&gt;

CAN RAISE MONEY FROM BANKING ALUM OF HARVARD AND YALE

==&gt;

CAN ASSIST IN THE WRITING OF PITCH DECKS PRESENTED TO VCS

==&gt;

CAN INVENT A NEW TECHNOLOGY FROM SCRATCH THAT HAS A NEW TECHNICAL PROCEDURE THAT PRODUCES RESULTS AT THE LEVEL OF ILM AND IS VALUED AT 20 MILLION WITH OVER 15K LINES OF CODE

==&gt;

CAN CO-CREATE A FREEMIUM BUSINESS MODEL THAT OUT-PENETRATES FACEBOOK LLC IN UNIVERSITY PENETRATION PRE "SERIES A" WITH OVER 250 SCHOOLS LICENSED WORLDWIDE

==&gt;

## 3. INTEGRATION

### MARKET THE LLC WORLDWIDE

CAN DEVELOP UNIVERSITY RELATIONS SETUPS LECTURING AND SHOWCASING THE TECHNOLOGY TO OVER 40 SCHOOLS WORLDWIDE

==&gt;

CAN ACQUIRE INTERNATIONAL ADVERTISEMENTS FOR THE LLC

==&gt;

CAN GET GLOWING REVIEWS FROM THE USER BASE, INCLUDING BEING CALLED "MIND BLOWING" FROM THE TOP PERSON IN THE INDUSTRY, IN THIS CASE THE SIGGRAPH CHAIR

==&gt;

CAN MAKE SUCH AN IMPRESSION IN THE INDUSTRY THAT WE ARE FEATURED ON BOTH THE COVER OF A WORLDWIDE MAGAZINE, THE WALL STREET JOURNAL MARKET WATCH, AND TRIAL TECH INCLUDED IN MAGAZINE ACCOMPANYING DVD

==&gt;

CAN GET MULTIPLE NDAS AND IMPRESS OVER THREE FORTUNE 500S FOR ACQUISITION REVIEW

## 4. CLOSURE

### SELL OFF THE LLC

EVERYTHING HAS BEEN ACCOMPLISHED EXCEPT FINALIZING AN ACQUISITION DEAL: NEGOTIATIONS WERE AROUND THE 20 MILLION DOLLAR RANGE

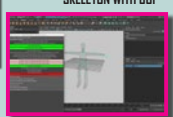
#### SMART SKINNER RIGGING PIPELINE SOFTWARE:

- WROTE ENTIRE TECHNOLOGY BY MYSELF IN MEL AND PYTHON
- CUSTOMIZABLE UPON REQUEST: FEATURED AT SIGGRAPH AND GDC
- ADVISED BY ILM COFOUNDER AFFILIATE TO NOT SELL BELOW \$20 MILLION
- 3 ACQUISITION REVIEWS WITH 3 SEPARATE FORTUNE 100 COMPANIES
- RAISED INVESTMENT MONEY FROM BANKING ALUM OF HARVARD AND YALE
- FEATURED ON THE COVER OF A WORLDWIDE MAGAZINE
- TECH BURNED TO WORLDWIDE MAGAZINE'S INCLUDED ACCOMPANYING DVD
- 250 UNIVERSITIES ON 6 CONTINENTS RECEIVED PRODUCT

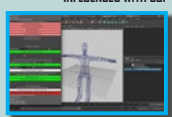
#### 1. START WITH YOUR MODEL



#### 2. GENERATE AND ALIGN SKELETON WITH GUI

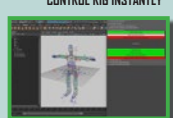


#### 3. ATTACH MODEL TO SKELETON AND PICK THE NUMBER OF SKIN INFLUENCES WITH GUI



REFERENCE IN ZBRUSH: NEXT-GEN OR MOBILE PROXY WITH CORRECT SKIN WEIGHTS THAT ALIGNS WITH MODEL. TRANSFER WEIGHTS THEN UNREFERENCE. THIS HAPPENS ALL WITHIN GUI.

#### 6. GENERATE ILM LEVEL CONTROL RIG INSTANTLY



#### 7. KEYFRAME CONTROL RIG WITH GUI BUTTONS



#### 8. OPTIMIZE CHARACTER FOR IN GAME USE WITH GUI



#### 5. TEST SKIN WEIGHTING WITH GUI PUSHER LIBRARY



EITHER 6.

9. OVER 80 HOURS SAVED IN 15 MINUTES

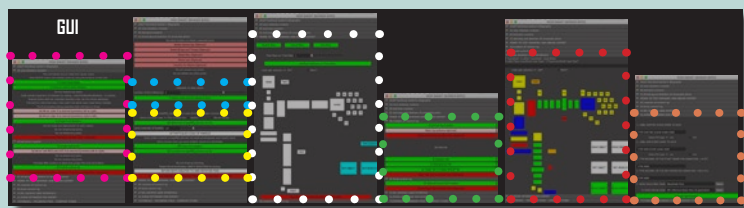
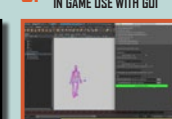
#### 6. GENERATE MOCAP HIK RIG WITH GUI



#### 7. APPLY MOCAP DATA TO HIK RIG IN MAYA

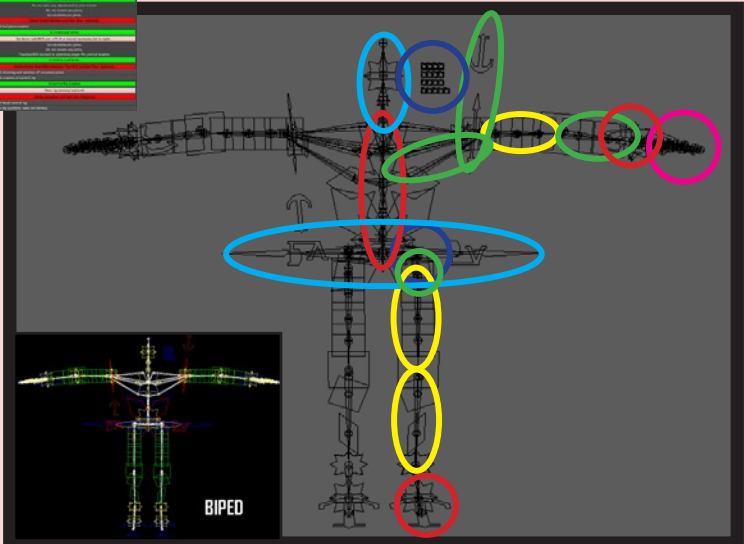


#### 8. OPTIMIZE CHARACTER FOR IN GAME USE WITH GUI



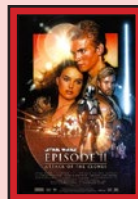
#### PRINCIPAL TECHNICAL ART FILM GAME CONVERGENCE

- SMART SKINNER SOFTWARE CONTROL RIG TECHNICAL INFLUENCES
- 80 HOURS OF LABOR COMPLETED IN 20 SECONDS (14K LINES OF CODE)
- MATCH HIGHLIGHTED COMPANY TO CIRCLED BODY PART



LUCASFILM Ltd

BI-MONTHLY BEST PRACTICES REVIEW COMMITTEE  
SELECTED BY FORMER CTO OF PETER JACKSON'S WETA DIGITAL



ILM BLOCK PARTY  
JANGO FETT



2K SPORTS



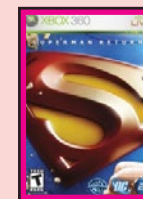
LUCASFILM  
ANIMATION



CHARACTERS EXPLORED AT LUCASFILM ANIMATION



LUCASFILM  
ARTS



EA GAMES



EA SPORTS



TITLES EXPLORED AS EA GLOBAL RIGGING ATTENDEE



## Industry insider Brent Zorich

Character technical director,  
Lucasfilm

Each issue, 3D Artist finds out how the top people in the 3D industry got their jobs and what you need to know to get a foot in the door

### About the insider

**Job** Character technical director/lead rigger  
**Education** Masters of Fine Art at ACCAD at The Ohio State University  
**Company website** www.lucasfilm.com  
**Personal website** www.brentzorich.com  
**Biography** Prior to entering the animation industry, I had worked for the top two architectural firms in the world. I pride myself on trying to be on a team that does the best work, no matter what project. I push technology as far as I can on whatever team I am affiliated with.

**T**here are few people in the 3D industry who can claim to have worked on bestselling EA games titles one year and hung out at Skywalker Ranch with Lucasfilm the next, but Brent Zorich is a man who can. Zorich was part of a steering committee meeting for Lucasfilm on film/game convergence. In addition, he was lead rigger on *The Force Unleashed: Ultimate Sith Edition*. On this title, he was working in the LucasArts division, looking at pipeline and storage optimisation and lead rigging on such characters as Jabba the Hutt and Boba Fett. Zorich was also dealing with convergence on all divisions from Lucasfilm to LucasArts, Lucasfilm Animation, Industrial Light & Magic and Lucasfilm Animation Singapore.

**3DA: What did this role of working on convergence mean in practice?**  
**BZ:** As a part of the senior staff, I wrote proposals to help set the direction for Lucasfilm Ltd as a company. In Singapore, not only was I part of research and development prior to my promotion and relocation to the home office in San Francisco, I

also worked on colour correction and compositing for *Star Wars: The Clone Wars*.

**3DA: How did you get this job?**  
**BZ:** I applied online and was hired after Lucasfilm Animation Singapore saw the great work I did on EA Sports' football franchise.

**3DA: What kind of course did you do at university, or training did you do?**  
**BZ:** At ACCAD at the Ohio State University, I did extensive research on the following topics: VRML; procedural animation; Pixar's RenderMan; motion capture. I also researched Wayfinding in real-time simulation (the subject analysed and improved upon was the game *Spider-Man The Movie*).

First of all, the Wayfinding tool was created out of VRML and theories worked on with an eminent scholar. I also studied the enhancement of realism in computer animation through the incorporation of biomechanics and fatigue (the subject analysed was *Shrek*). Next, I looked at rigging of prehistoric animals with my project-based thesis *Mystery Dinosaur* work. Finally, I looked at creatures evolving based on the ecosystem around them. Classes were also taken in digital still-life lighting and theatre lighting.

**3DA: For today's generation of students, what is the kind of educational grounding they should be looking to undertake to get a first job as a character animator, or is the entry level a less specific role?**

**BZ:** This is the way that I do it. I have a television next to my monitor. I watch *Harry Potter* and the *Prisoner of Azkaban* (the Buckbeak scene). If I am embarrassed to look at what is on my monitor then I'm not done, plain and simple. I am my own toughest critic and I have zero tolerance.

**3DA: In your role as associate technical artist or lead rigger at EA Sports, what kind of work did that entail?**



### Portfolio highlights

2008-9 Star Wars: The Force Unleashed, Ultimate Sith Edition  
2008-9 Indiana Jones and the Staff of Kings  
2008 EA Sports MMA  
2007-8 NFL Tour  
2007-8 NFL Head Coach 09  
2007-8 NCAA Football 09  
2007-8 Madden NFL 09

2007 Tiger Woods PGA Tour 09  
2007 Madden NFL 08  
2007-8 Indiana Jones and the Staff of Kings  
2007 NCAA Football 08  
2007 College Hoops 2K8  
2007 NBA 2K8  
2006 College Hoops 2K7  
2006 Superman Returns: The Videogame  
2005-6 The Mystery Dungeon for the Discovery Channel



Character rigging on SW Force Unleashed  
Brent at Lucasfilm Animation  
NCAA college football from EA



**3DA: Do you think there is a shortage of skilled digital artists doing animation and did you find it difficult getting into the industry?**  
**BZ:** I use Maya, the proprietary software to Industrial Light & Magic, and After Effects and HyperCam for documentation.



## 3D Artist Questions & answers

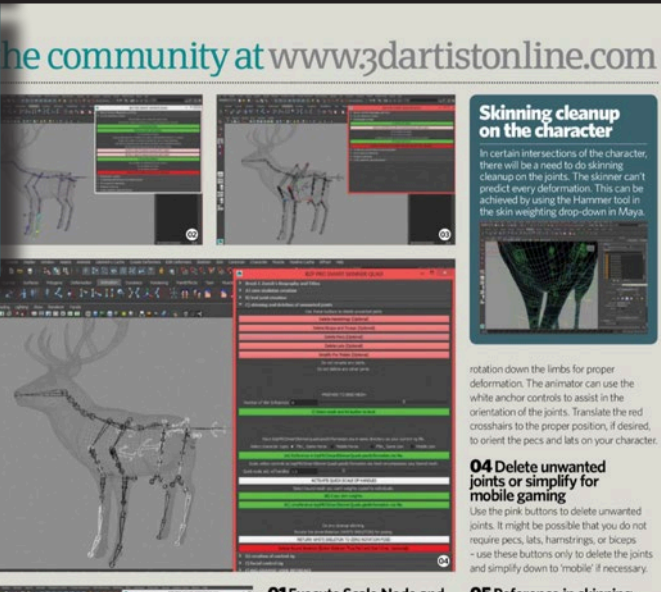
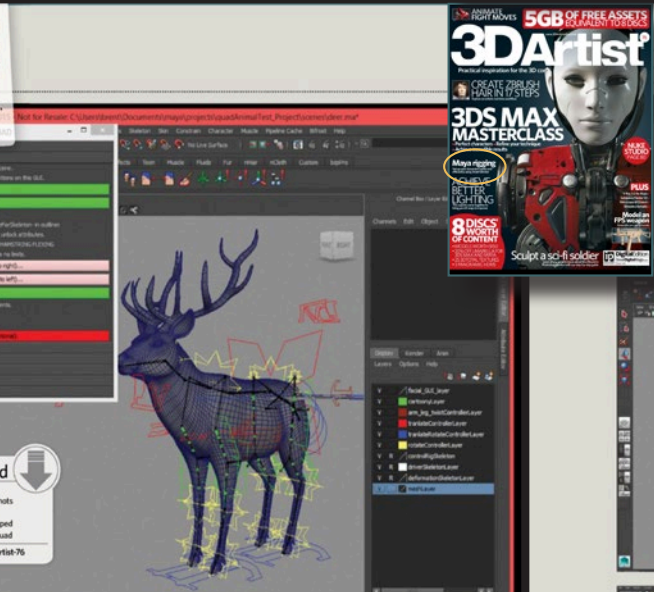
Our experts answer your technical questions for the most popular 3D programs. Simply email your questions to: 3dartist@imagine-publishing.co.uk

The best advice you can take when rigging is to use MAYA and not to use any other software on the job.

1. Create your rig.
2. Execute your rig.
3. Test your rig.
4. Test your rig.
5. Test your rig.
6. Test your rig.
7. Test your rig.
8. Test your rig.
9. Test your rig.
10. Test your rig.

ESTIMATED TIME TO COMPLETE THE TUTORIAL: 20 MINS

Download Tutorial files:  
• Tutorial screenshots  
• Video tutorial  
• 30-day trial of Biped  
• 30-day trial of Quad  
files.co.uk/3dartist-76



## Auto rigging with Smart Skinner

How can I rig and skin a character more efficiently to save billable hours - typically days or weeks?

This tutorial is a breakdown of how the Smart Skinner is used in the production environment to save days, if not weeks, on the rigging and skinning process of a character. This step-by-step process goes over the basics of the software and will rig and skin a character of a deer in a matter of minutes. When I worked in production for the biggest commercial planet, it would not be uncommon that from a billable standpoint, a development director might give me two weeks to start, execute, and complete a rigged character. This caused headaches in the production setting as often I was repeating the same task on different proportions without an effective way of cutting down hours. At Lucasfilm, I was looking through the assets of the main characters such as

production quality. Then, the animator specifies whether or not he wants the character to be a 'film next-gen character' or a 'mobile character'. From there he will reference in a pipeline that enables auto skinning, transferring the skinning weights, unrefining the pipeline skinning file, and making an entire control rig at the push of a button. The end result will deliver a character able to be animated out of the box that is top-of-the-line production quality ready for either film or game.

**01 Execute Scale Node and sketch skeleton**  
Push the button to activate the Scale Node. This will set the overall scale of the rig. Then hit button 2 to generate the sketch skeleton that is already in a base proportion. The animator needs to translate the root of their mesh to the 0.0.0 world space coordinate. The root of the sketch skeleton is locked.

**02 Block out proportions of the skeleton**  
By using the open channels, and open channels only, begin to sketch out the proper proportion of the skeleton to the character. Locked are not to be unlocked, this will maintain the proper joint orientation and guarantees that your IK will be set up properly in Step 6. You can also mirror your proportion you want, hit button 4 to lock the sketch skeleton into place. That will zero out your joints in your sketch skeleton.

**03 Create leaf joints for deformation and counter rotation**  
Hit button 5 to execute the 'leaf helper' joints. These joints will assist in the counter

**04 Delete unwanted joints or simplify for mobile gaming**  
Use the pink buttons to delete unwanted joints. It might be possible that you do not require pecs, lats, hamstrings, or biceps - use these buttons only to delete the joints and simplify down to 'mobile' if necessary.

**05 Reference in skinning pipeline and transfer weights**  
Select whether or not you have a 'mobile character' or a 'film next-gen character' (note for the quad you will pick whether your character is built like a cat or a horse) and hit button 8A to reference in the pipeline file. Scale the yellow controls so the reference mesh encompasses the character mesh. Hit 8B to transfer the skin weights. Your skinning should be near completed. Hit 8C to unreference the reference file. You now have a clean scene with weighting that is 90 to 95 per cent complete. Do a cleanup skinning at this point.

**06 Create control rig and facial GUI**  
Now that you have a skinned file, hit button 9 to generate the entire control rig. Your rig is complete. The rigging process is a three-joint chain rig: a control rig driving an animation skeleton that drives a deformation skeleton. In regards to complexity, the control rig is at the level of a major motion picture studio. Hit button 10 to generate your facial GUI that can be used with blendshapes in Maya. Once you've done this, you're ready to animate!