

Maciej Stanisław Chocieĳ

Personal information:

Born: August 2nd, 1983
Nationality: Polish
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Education:

2007 - Theoretical Computer Science Dept., Jagiellonian University, Kraków, Poland
PhD programme
Teaching Fellow:
– Course in Programming
– Course in Algorithms & Data Structures pt. 1
– Course in Parallel Programming
Research:
– High performance scalable e-mail system – Ministry of Science and Higher Education – POIG.01.04.00-12-030/09-00; POIG.04.01.00-12-030/09-00
– Movement tracking in monitored zones – 2010-2012 - Ministry of Science and Higher Education – Grant R00 0081 11

2006 - 2007 School of Engineering, Cranfield University, UK.
Master of Science (Grid Computing).
Master's Thesis: "Visualizing 3d grid data" - a reference implementation of a distributed system for GPU rendering of complex engineering models (Java, J2EE web stack, OpenGL)

2002 - 2007 Institute of Computer Science, Jagiellonian University, Kraków, Poland.
Master of Science (Computer Science).
Master's Thesis: "The painter's algorithm in 3d real time graphics" - a theoretical paper analyzing a new front to back algorithm for the painters approach. The paper focuses on some spatial configurations of scenes, that can be efficiently processed for fast ordering of rendered objects. The theoretical tools involved, included: graph theory – graph coloring, planarity and computational geometry – sweep line algorithms.

1998 – 2002 August Witkowski 5th High School in Kraków.

Research focus:

- parallel algorithms
- computational geometry
- 3d graphics
- computer vision

Patents:

- (WO/2009/114559) AGENT-BASED DIGITAL CINEMA MANAGEMENT SYSTEMS, (Chocieĳ Maciej, et al), on behalf of Beaufort California, Inc and phiScape AG, link: <http://www.wipo.int/pctdb/en/wo.jsp?WO=2009114559>

Publications:

- „Real time object tracking on GPGPU” – Chocieĳ Maciej, Polak Adam – VISAPP 2012 – accepted

Language Skills:

English Very good (CPE, CAE, FCE)
German Fair

Work Experience:

Sep 2010 - now	Jagiellonian University – software engineer & researcher – working on a automatic surveillance system commissioned by the Ministry of Science and Higher Education. Responsible for the design and implementation of object detection, motion detection and optical flow algorithms. Tools used: c++, CUDA in a high performance and multithreaded (48 cores) multi-CPU and multi-GPU environment. Leading a team of three engineers.
Jun 2007 - now	Buzzword Junkie (self-employed) <ul style="list-style-type: none">– „Lebork – The defence system of a medieval city” (2010) - a 30 minute CGI educational movie, depicting the background, the history and the theory behind medieval Teutonic city of Lebork. Commissioned by the City Council of Lebork. Created in cooperation with Madwands Media. Was responsible for:<ul style="list-style-type: none">– movie script and all historical commentary– technical production (led a team of 5)– programming of procedural assets & scripts: terrain, vegetation, visual noise– shader programming and rendering optimization– network render– „The Last Years of the Nazi Occupation” (2010) – part of the exhibition multimedia and art for the Schindler's Factory Museum in Kraków (led a team of three graphic artists)– “Virtual trip to Biskupin” (2009) - a VR reconstruction of a archeological site, commissioned by the Institute of Archeology at the Warsaw University. Worked together with Madwands Media (they were responsible for low poly art and textures). Lead programming and some project management tasks (5 person team: me, lead artist, 2 other artists and an assistant tools programmer). Responsible for core application and rendering technology. Created our in-house 3d engine:<ul style="list-style-type: none">– layered architecture (Api abstraction layer for dx9/10, rendering layer, scene layer)– strict API / Impl distinction, with lightly coupled API for flexibility and tightly coupled implementation for performance– support for open and portal connected/culled zones– support for static, instanced and skinned meshes– effective batching and render queues construction– support for gpu simulated particle systems (fire, smoke, sparks, grass, ...)– simple game building tools: scripted camera, actor movement, level meta-data ...– integration with 3ds max 2009 for level building and asset export (boned animations, skins, meshes, material setup and level construction)– screenshots available: http://madwands.com/biskupin/– 'Model-View-Controller' object oriented GUI– “The history of Pradnik Valley” (2009) - is a full HD, 5 minutes, stereo, rendered animation commissioned by the National Park of Ojcow Museum. Worked together with Madwands Media (they were responsible for the 3d modeling and animation). Created software (3ds max plugins) for automatic optimization of some scenes (high poly terrains and plants). Also was responsible for rendering automatization, technical special effects and final composition. Trailer available: http://madwands.com/ojcow/
Jul 2007 – Sep 2008	phiScape AG / phiScape Software Ltd <ul style="list-style-type: none">– software engineer in the areas of service oriented architecture and distributed enterprise systems. Responsible for design and implementation of the service containers, remoting and event driven architecture, as well as some common low layer software components– researcher in the area of natural language processing, context aware search and knowledge extraction
May 2008 – Aug 2008	INTERIA.PL S.A. (in cooperation with the Jagiellonian Uni.) <ul style="list-style-type: none">– research on load balancing algorithms for high demand web services– research on energy efficient cluster solutions– led a team of three researchers in those two projects
Sep 2006 – Sep 2007	UE grant/scholarship at Cranfield, School of Engineering, AMAC, Grid Computing - design and implementation of a grid oriented platform for visualization of scientific data. Utilizing distributed real time accelerated 3d graphics. The project later became the basis of my MSc thesis.
May 2005 - now	Madwands Media, co-founder, partner, http://www.madwands.com
2000 – 2006	Java programmer - 3 tier Java business applications based on: EJB (JBoss, xdoclet, hibernate), SQL (PostgreSQL, MSSql), JSP/servlets (tomcat, struts, tiles, axis) @ Computerland, Sygnity, R-DATA

Professional skills:

C/C++ skills	C++ (proficient, 11 years commercial and academia experience) C (proficient, 11 years, mostly academia experience) STL (proficient, 6 years experience)
C/C++/3d Tools and frameworks	Direct3D 9.0c (sm3) (proficient, 3 years) Direct3D 10 (sm4) (proficient, 4 years) Direct3D 11 (sm5) (proficient, 2 year) OpenGL (3 years, mostly academia experience) CUDA (2 years) MS Visual Studio 6/2003/2005/2008/2010 (10 years) GNU gcc/g++/make tools (10 years) 3ds max SDK 2008/2009/2010/2011 (4 years)
Other programming skills & tools	cvs/svn (proficient, 10 years) Eclipse IDE (proficient, 8 years) Java SE & EE (7 years, commercial experience) python, perl, lisp, lambda-calculus, php, Lars-Pensjo C, pascal (sometimes) SQL, Postgresql, MySQL, MSSQL (6 years) 3ds max (proficient, 12 years, 3d studio user since version R4 for dos :))

General professional assets:

- strong algorithmic and mathematic background
- knowledge of IT paradigms including OO, SOA, design patterns, idioms and the tao of computer programming
- knowledge (and practice) of rational and agile software development methodologies and tools
- ability to work in team
- good interpersonal skills
- surreal sense of humor
- analytic reasoning
- curiosity

Hobbies:

literature (Dick, Lem, Orwell, Huxley, Palahniuk), cinema, snowboarding, cooking, guitar