

Ronald M. Caplan

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OBJECTIVE

Position in Astronomy/Physics utilizing knowledge of Computational Science.

EDUCATION

Ph.D SDSU with Claremont Graduate University

Major: Computational Science

Expected date of graduation: May, 2012

M.S. San Diego State University

Major: Computational Science

Date of graduation: May, 2008

G.P.A. 3.86

B.A. University of California, Santa Barbara

Major: Computer Science

Minor: Astronomy and Planetary Science

Date of graduation: June 15, 2003

G.P.A. 3.32

Relevant Courses Taken

- UNIX, C, and C++
- Foundations of Scientific Computing
- Parallel Scientific Computing
- Numerical ODE's and PDE's
- Nonlinear Dynamics and Chaos (Discrete and Continuous)
- Nonlinear Waves
- Computational Linear Algebra
- Computational Physics
- Experimental Astrophysics Lab

SKILL SUMMARY

MATLAB, CUDA, IDL, FORTRAN, C, C++, MPI, OpenMP, Oracle SQL, Java, Visual Basic, AutoCAD, HTML. Internet-based research. Web design. Graphical presentations. Teamwork. Fast learner.

EXPERIENCE

Scientific Programmer: San Diego State Research Foundation and Aerospace Engineering Department
Summer 2010

- Explored implementing CUDA GPU parallelism in a hybrid WENO-spectral hydrodynamic code written in FORTRAN.
- Wrote sample codes of various routines in PGI CUDA-FORTRAN and computed speed-up.
- Wrote report including overall recommendations and code implementations.

Scientific Programmer: KMS Technologies, Houston, Texas
Summer 2008

- Converted in-development 3D EM FORTRAN code into an MPI parallel version.
- Wrote program manual and instructions on running code on different platforms.

Visualization Programmer: UCSB Physics Department and X-2 Division at
Los Alamos National Laboratory, Los Alamos, New Mexico.
Summer 2003

- Wrote 3D visualization software in IDL for RAGE/SAGE astrophysical simulations output.
- Wrote 2D visualization and ray-tracing analysis software in IDL for use with simulation data.
- Learned to use various software packages for viewing AMR data from RAGE/SAGE
- Created images and movies from simulation data for use with presentations.

Data Entry and Analysis: Nonproliferation, Arms Control and International Security Directorate at
Lawrence Livermore National Laboratory, Livermore, California.
Summer 2000

- Condensed information from approximately 800 USA-FSU technical contracts into new database using Microsoft Access and Excel.
- Created queries, charts, and graphs from data gathered.

HONORS

- UCSB Physics Department Research Honors Award, June 2003

References available upon request.