Ioan Vlad

1914 Winding Hollow Dr, Katy, TX 77450
Tel. 832-631-5958
ivlad@ivlad.info
www.linkedin.com/in/ioanvlad

Work experience

TGS-NOPEC Geophysical Company
Sep. 2012 — Nov. 2015

Advising Geophysicist I (2014-15)

→ FWI production projects

→ Deghosting benchmarks with several methods (both internal and for client tenders)

→ Beam migration for production project

→ Testing: Kirchhoff time & depth migration, demigration-remigration, TauP Transform, TauP Decon, Partial Deghost. Ad-hoc testing as needed by production. Close work with both R&D and production.

→ Bash & Python script development as needed: convert, extrapolate Landmark horizon files; automate flows for depth imaging training class; extract runtimes from logs of distributed Prima jobs; bypass Prima's limitation of not accepting both line name lists and wildcards; visual mapping and inspection tool for Prima rundecks; Prima module usage histogram to determine the most frequently used modules for maintenance, documentation prioritizing. Received Bright Spot Award for these activities.

Advising Research Geophysicist (2012-14)

→ Created production-quality Full Waveform Inversion (FWI) workflows and software starting from the Imperial College *fullwave* package. Ran FWI projects on 3-D field data. Developed new software features. (EAGE, SEG abstracts 2014)

→ Ported Jython+Java warping algorithm to C

→ Investigations into measuring the solution error in least-squares migration, on stabilizing the inversion, and on the dependence of the diagonal of the Hessian on frequency domain sampling. Study on feasibility of implementing in production academic codes from SEP. Computing Point-Spread Functions at client request.

→ Created, maintained SVN and research data repositories

SIGMA³ Integrated Reservoir Solutions
Jan. 2011 — Sep. 2012

Senior Research Geophysicist

→ Built, maintained, tested, improved Z-Factor software: RTM, common-azimuth migration, misc. utilities and SEPlib versions. Fixed bugs found by internal and external clients. Created and adapted parallelization systems appropriate to client needs. Collaborated in design of software interfaces and workflows.

→ Consulted as imaging expert in production depth imaging projects

→ Recruitment and interviewing

Statoil (Trondheim Research Center)
Nov. 2005 — Dec. 2010

Senior Research Geophysicist

→ Started as Geophysicist; Promoted Jul. 2006

→ 2010 Visiting Scientist at the Colorado School of Mines

→ Programmed 3-D τ-p transforms (f-k, f-x), plane-wave FFD migration, common-azimuth migration, angle-domain common image gathers, universal CG solver (arbitrary number of fitting goals), fault-tolerant parallelization, etc

→ Exhaustive literature survey on directional wavefield methods (τ-p/plane-wave/etc)

→ Wave-Equation Migration Velocity Analysis research (Geophysics articles 2008, 2011). Supervised summer intern, coordinated WEMVA implementation team

→ Specialist technical services (seismic imaging projects) with ScreenSeis. Gravity modeling (Nordkapp basin)

→ Liaison, evaluator for research consortia (SEP, CWP) and for external software and research proposals. Represented Statoil in technical meetings with suppliers.

➜ Initiated source code version control, research data repository. Software engineering experience participating in the Madagascar open-source project

Jul. 2000 – Oct. 2005

Stanford Exploration Project
Research Assistant

➜ Performed research in Seismic Processing and Depth Imaging under the supervision of Biondo Biondi and Jon Claerbout. Also performed software maintenance, publication typesetting, web development

➜ 17 articles in 8 SEP reports. Topics: Wave-Equation Migration Velocity Analysis (SEG abstract 2004); Amplitude-preserving imaging; AMO and regularization (SEG abstract 2002; author of SEPlib AMO); Noise attenuation (AGU abstract 2002, SEG abstract 2005)

➜ OBS instrument assembly, on-board data processing: 1month, West Pacific, JAMSTEC ship; journal article co-author

Jun. – Sep. 2005

ConocoPhillips
Geoscience Intern

➜ Seismic imaging programming. Numerical experiments in CPS on angle gather amplitudes

Spring, Fall 2004

Stanford University
Teaching Assistant

Assisted classes of Jon Claerbout and Biondo Biondi. Centennial Teaching Assistant award from School of Earth Sciences (2005)

1999

CALIXTO Project
Field assistant

Deployed, serviced long-period seismographs (Reftek, PDAS, Mars88, MiniTitan, Guralp) in the field for the Carpathian Arc Lithosphere Cross Tomography project. Geologic field mapping in the Transylvanian Alps.

EDUCATION

2002 – 2005

Ph.D. (ABD) in Geophysics
Stanford University

Fulfilled all course requirements for the Ph.D. degree

2000 – 2002

M. Sc. in Geophysics
Stanford University

Stanford Graduate Fellowship recipient

1995 – 2000

B. Sc. in Geophysics
University of Bucharest

Valedictorian; Government merit fellowship; Thesis: "2D Gravity and Geodynamical Modeling of the Lithosphere in Central and Northeastern Romania", presented at SEG/RSG conference.

SKILLS AND AFFILIATIONS

Seismic Processing & Imaging: Madagascar, SEPlib, Seismic Unix, ScreenSeis, CPS, Z-Factor, TGS Prima & ImageZ, SPW

Office & Publishing: Microsoft Office, Libre Office, LaTeX, NetMeeting, Skype, GoToMeeting, Mediawiki, VNC, VPN

Operating Systems: MS Windows, Unix, Linux

Software Engineering: Agile (methodology), Subversion (SVN), Mercurial, Graphviz, Trac, SCons, Make, Epydoc, Bugzilla, Jira, kdiff3, tkdiff, DDD, Intel Debugger, vim, emacs, kate, NetBeans

Programming: C, C++, Fortran 2003, Fortran90, Fortran77, Python (with OO features), Cython, Jython, Matlab, Java, HTML, CSS, bash, tcsh, Glade, GPU (NVIDIA CUDA), gnuplot, PBS parallelization

Libraries: OMP, MPI, FFTW, Tepache, Pygtk

Languages: English (excellent), Romanian (native), French (intermediate), Norwegian (conversational)

Memberships: SEG, EAGE, GSH

Work permission: U.S. citizen; E.U. citizen.