HILDA B. KLASKY

Oak Ridge, TN | 865.574.7602 | klaskyhb@ornl.gov | linkedin.com/in/ hilda-b-klasky | Hilda Klasky - Google Scholar

SENIOR R&D STAFF - COMPUTATIONAL SCIENCES & ENGINEERING DIVISION

Blend Technical and Human Skills to Produce Industry-Leading Visionary Results by Engaging Innovative Teams

AREAS OF EXPERTISE

✦ Computational Engineering
✦ Research & Development (R&D)
✦ Scientific Writing
✦ Process and Data Analytics
✦ Health Data Science & Biostatistics
✦ Multiscale Modeling & Simulation
✦ Scalable Algorithm Development
✦ Scientific Proposal Development
✦ Technical Group Collaboration
✦ Federal Regulatory Compliance
✦ Bilingual: English, Spanish
✦ Department of Energy (DOE) Q Security Clearance (2012-2017)
✦ Central DOE Institutional Review Board Alternate Member
✦ VHA's electronic health records system

Technical Proficiency

LANGUAGES & SCRIPTS/
C, C++, CGI, DHTML/HTML, FORTRAN, Java, JavaBeans, JavaScript, JSP, JSTL, Jython, PL/SQL, Perl, PHP, Python, R, SQL, Unix shell, XML

COMPUTATIONAL SYSTEMS ENGINEERING/
Favor, Data Structures, Parallel Programming

STATISTICAL AND DATA ANALYSIS TECHNIQUES/
Probability, Inference, Modeling and Linear Regression

MACHINE LEARNING (ML) ALGORITHMS/
Predictive Modeling, Classification & Clustering, Graph Analysis, Dimensionality Reduction

DATABASES/
Microsoft SQL Server, MySQL, MongoDB, Oracle, Postgres

PLATFORMS/
Linux (Ubuntu, SuSE, Red Hat), Microsoft Windows, UNIX, HPC

API & TOOLS/
Apache Ant, bupaR, Celonis, Confluence, CVS, Favor PFM, Disco, dplpyr, Git, GitHub, GGPlot2, HDFS and Hadoop family, INK MOOSE Framework, INL Grizzly & Raven Libraries, Mlib, JIRA, Java Mail, Java Swing, JUnit, Jupyter Notebook, Hibernate Products, log4j, JMeter, MS Office, pm4py, ProM, PyTorch, RStudio, Visio, Oracle APEX, Spark family, Subversion (SVN), TensorFlow, Wiki, XDoclet, XLPR

PROFILE
Forward-thinking Scientist, Engineer, and Analyst with experience in full lifecycle computational engineering, process and data analytics projects while supporting ORNL's <u>Health Sciences</u> initiatives as an accomplished member of the Computational Sciences and Engineering Division (CSED). <u>Fellow of the American Medical Informatics Association (FAMIA).</u>

✦ **Unites, engages, and mentors transdisciplinary teams** to leverage advanced computing methods, artificial intelligence (AI), and machine learning (ML) to solve complex problems and propose visionary solutions and technology advances in healthcare and energy industries; coach staff to pursue and achieve career promotions.

✦ **Provides exceptional R&D support** and commitment to ORNL's culture of excellence by securing funding for continued scientific discovery, cultivating recognition as a subject matter expert among multiple scientific societies and peer-reviewed publications, and capitalizing on ORNL's resources and facilities.

PROFESSIONAL EXPERIENCE

SENIOR R&D STAFF MEMBER
Oak Ridge National Laboratory (ORNL) | 2009 – Present

Team Leadership Success Stories and Accomplishments

✦ **Stepped in as interim Team Lead** on Nuclear Regulatory Commission (NRC) program; enabled uninterrupted communications with NRC, mentored team through change, assessed staff performance, delivered on-time and on-budget; secured funding for next fiscal year and hired two qualified postdocs.

✦ **Led team to earn ORNL Significant Event Award** for contribution to life extension of Palisades Nuclear Power Plant.

✦ **Mentored junior researchers** seeking publication of research, resulting in several scientific journal papers and several conference papers.

Research Projects and Contracts

U.S. Veterans Affairs (VHA) Administration Office (WFO) 2017 - Current

Project: *Environmental Determinants of Health Analytics (EDH) 2021 - Current*

- **Led and co-authored** high-impact sponsor technical reports, overseeing data curation for social and environmental health determinants in the USA. Managed metadata and coordinated dataset transfers to the VHA's CDW healthcare database system, enhancing data accuracy and efficiency, contributing to improved healthcare research and decision-making.

- **Co-authored a research study** on environmental determinants of health to develop composite measure index of environmental determinants of health.

Project: *Health Information Technology Hazard Detection (HIT-HD) 2018 - 2023*

- Developed a **research study on process mining for conformance analysis** within VHA Corporate Data Warehouse, identifying business alignment and inconsistencies in clinical workflows (Consults, Radiology, Laboratory Services, Outpatient medications). Presented findings at **IEEE ICHI 2023**, **IEEE SoutheastCon 2022**, **AMIA 2020 Informatics Summit**, and **IEEE Process Mining Camp 2020** (*Eindhoven, The Netherlands*).

- **Co-authored several research studies** on hazard, anomaly, and outlier detection approaches applied to veterans' healthcare data.

HILDA B. KLASKY

o ⚲ Oak Ridge, TN | ☏ 865.274.7300 | ✉ klaskyhb@ornl.gov | ⛾ linkedin.com/in/ hilda-b-klasky | ⛾ Hilda Klasky - Google Scholar

PROFESSIONAL EXPERIENCE continued

Contract: U.S. Veteran's Affairs Administration Office (WFO) Projects continued

Project: *Health Information Technology Advanced Analytics (HIT-AA) 2017-2018*

- Assembled a transdisciplinary team and directed all aspects of a project to **apply advanced analytic techniques using health information data** for the VA Office's Corporate Data Warehouse.
- Researched and assessed different advanced analytics approaches applied to veterans' healthcare data to **identify clinical pathways for ischemic heart disease**. Collaborated on the **design of a microservices platform for scalable clinical analytics**.
- Researched and assessed the use of **game theory to understand and model clinical pathways** in VA's healthcare data.

Contract: National Cancer Institute's (WFO)

Project: *CANcer Distributed Learning Environment (CANDLE) program 2019 - 2020*

- Co-authored multiple research studies with two published and two manuscripts awaiting publication*:
  o *Accelerated Training of Bootstrap Aggregation-based Deep Information Extraction Systems* from Cancer Pathology Reports.
  o *Privacy-Preserving Knowledge Transfer with Bootstrap Aggregation of Teacher Ensembles*.
  o Performance Evaluation of Graph Convolutional Networks for Information Extraction from Cancer Pathology Reports*.
  o Quantifying Vulnerability of Privacy Attacks toward the MT-CNN models form Information Extraction of Cancer Reports*.

ORNL Strategic Partnership Projects (WFO)

Project: *ORNL Strategic Partnership Projects 2020 - Current*

- Worked with Primary Investigators to review, submit, and approve statements of work and project proposals for **non-federal and federal projects** for the Computation Sciences & Engineering, Computer Science and Mathematics, National Center for Computational Science Divisions of the Computing & Computational Science Directorate. Performed the first approval of **project proposals**.
- Applied **process mining to discover bottlenecks and rework** on DOE's approval process on the project proposal system.

Contract: U.S. Nuclear Regulatory Commission (WFO)

Project: *Probabilistic Structural and Material Modeling (ProSaMM), IAA No.: NRC-HQ-60-15-T-0007*

- **Assumed responsibilities as interim Team Lead**, including mitigating change to preserve effective communication with NRC and promote a positive team environment; hired post docs, composed and sent detailed reports, reviewed proposals, and conducted weekly meetings, resulting in on-time deliverables within budget, continued funding for next fiscal year, and increased productivity from adding two qualified postdocs.
- Leveraged R&D to advance industry knowledge of reactor pressure vessels (RPV) and piping systems through the **creation and integration of new probabilistic models**.
- **Enhanced engineer access** to databases, knowledge management systems, and archiving tools by developing risk-informed alternatives to standard review plans, regulatory guidance, and Code of Federal Regulations (CFR).

Project: *Reactor Embrittlement Archive Project (REAP)*

- Assembled and led a transdisciplinary team and directed all aspects of a project to **construct the framework for a national repository** and regulatory tool with searchable irradiation surveillance data from 100 U.S. nuclear power plants.
- **Researched and assessed system architecture capabilities**, including collaborating with subject matter experts (SME) to prepare technical specifications.
- **Co-authored five publications** detailing the project, software requirements, and web application user guide and system schema.

Project: *NRC Extremely Low Probability of Rupture (xLPR) Consortium Project*

- Achieved on-time project delivery and high marks from independent evaluators for **development of open-source implementation for xLPR pilot solution** for computational probabilistic analysis integrated into existing Structural Integrity Assessment Modular (SIAM)-Probabilistic Fracture Mechanics.
- Drove Directorate initiatives and supported Division Director as **Quality Assurance Team Leader** for Phase I of SIAM-xLPR development.
- **Presented project findings** at ASME 2010 Pressure Vessel and Piping Conference and in eight published documents.

Project: *Web-based Knowledge Management System*

PROFESSIONAL EXPERIENCE continued

- **Designed system to archive extensive computational data and technical documentation** generated with normal start up and shut down of nuclear power plants.

Contract: Light Water Reactor Sustainability (LWRS) Program

Project: *INL/ORNL Case Study using GRIZZLY and RAVEN focusing on RPV – Pressurized Thermal Shock (PTS)*

- **Verified remote communications between INL and ORNL** to test applications and assisted INL in performing risk analysis of RPV.

Miscellaneous Contracts

Project: *Electricite de France (French National Electrical Utility)*

- Authored interim report **describing probabilistic integrity calculations** using FAVOR code of French-designed RPV subjected to PTS to quantify Beaver Valley transients and effect of warm pre-stressing and crack arrest.

Project: *Belgium-FANC*

- **Edited and co-authored final report** for FANC detailing a comprehensive safety review of structural integrity of RPVs in Belgian nuclear power plants, leading to the reinstatement of two plants.

JAVA APPLICATIONS DEVELOPER | National Audubon Society | 2003 - 2009

Key Accomplishments

- **Developed core functionality and code for the Important Bird Areas project**; built site search tool, streamlined processes, and collaborated with various owners to resolve bugs using Oracle, Hibernate, Spring, Java, JSP, and AJAX.
- **Spearheaded development of the Online Payment Application** using JOSSO framework, Oracle back-end, Hibernate, Spring, JSP, and Velocity templates resulting in elegant, robust application for secure credit card transaction processing via VeriSign.
- **Delivered major system initiatives using J2EE design and Java Web techniques**, including developing APIs to move data to and from Oracle database, testing using Junit, and configuring Apache Tomcat Cluster and Tomcat Web Server.
- **Enhanced, developed, and administered the high-profile Christmas Bird Count Application**, including the Historical and Current Year data entry tools.

Earlier Career Experience

Software Engineer | Panasonic Research Technologies ✦ **Web Database Developer** | Advice and Counsel, Inc.

Web Developer | Outpost Outpost ✦ **Research Associate** | NPAC, Syracuse University

Software Engineer | Computacion en Accion S.A DE C.V.

EDUCATION

MASTER OF SCIENCE IN COMPUTATIONAL ENGINEERING | Rutgers University

BACHELOR OF SCIENCE IN COMPUTATIONAL SCIENCE | Universidad De Guadalajara

PROFESSIONAL DEVELOPMENT

Harvard Extension School Data Science Program | Georgia Tech's MS in Analytics | Coursera's Process Mining | Oracle APEX
Oracle DB Administration | Project Management | Software Design & Modeling Techniques (UML) | Managing the Software Process
Financial Engineering | Information Mapping | Time Management |ORNL Technical Project Officer
Project Proposal Writing | Application of NQA1 SQA to DOE | Unified Modeling Language (UML)

PROFESSIONAL AFFILIATIONS (* SENIOR MEMBER)

Fellow of the American Medical Informatics Association (FAMIA) | Association of Computing Machinery (ACM)* |Current Secretary of the AMIA's Knowledge Discovery and Data Mining Professional Group**| |Institute of Electrical and Electronics Engineers (IEEE)***
|Institute of Industrial and Systems Engineers (IISE)* |