Pavel Alexandrovich Govyadinov

Address: 25 NW 30th Ave. Apt. 6
Eugene, OR, 97405, USA.

Telephone: +1-541-223-3689 (cell)
E-mail: pgovyadi@gmail.com

EDUCATION:
B.S. in Theoretical Physics (University of Oregon, 2011)
M.S. in Computer Science (University of Oregon, 2014)
High School Diploma(Crescent Valley High School, 2007)

PROFESSIONAL EXPERIENCE:
06/10-present – Research Assistant, Neuroinformatics Center, University of Oregon.
- Large Data Analysis for MREIT using Computational clusters.
- Data Analysis using Matlab and custom self-written C++ software.
- Project management, experiment running.
- Hardware engineering for MREIT experiments.
- Phantom experiments, including computational modeling and experimental validation.

09/12-present – Software Engineering/Research Assistant, Electrical Geodesics, Eugene, Oregon.
- Project leader: Use of Iontophoresis for Treatment of the Skin-Electrode Impedance.
  - Piloted experiments to find the most effective way to prove the effectiveness of the product.
  - Developed analysis methods and code for new data.
  - Wrote documents for the institutional review board (IRB).
  - Currently running the study.
- Project leader: Development of a finite difference method based high-performance forward and inverse problem solver.
  - Single-handedly molded the academic code into a product using the Agile model.
  - Added non-existent documentation for the code.
  - Created, documented and implemented a regression testing model for code development.
  - Created synthetic data for regression testing.
  - Revisers engineered the architecture and implemented data seperability principles, memory consolidation to improve run-time speed by 20% in OpenMP and Cuda implementations.
- Project Leader: Conductivity Analysis for Improved High-Resolution EEG.
  - Involved with the development of the experiment for the grant.
  - Created all the necessary documents for the IRB review process.
  - Trained other research assistants on the use of the data analysis hardware and software.
  - Lead all of aspects of the study, including, but not limited to data acquisition and data analysis.
- Research Assistant: Transcranial Electrical Stimulation(tES).
  - Extended the functionality of the modeling software to analyze and generate multi-variable simulations allowing for generation of thousands of individual runs in one.
  - Developed ways of validating results and worked on in a team to visualize
  - Assisted in the product development process on the data generation and data visualization fronts.

PUBLICATIONS:

- Song, J., Turovets, S., **Govyadinov, P**., Mattson, C., Luu, P., Smith, K., ... & Tucker, D. M. (2013, April). Anatomically Accurate Infant Head Models for EEG Source Localization. In *Journal of Physics: Conference Series* (Vol. 434, No. 1, p. 012012). IOP Publishing.
- Govyadinov, P., Gunn, A., Turovets, S., Tucker, D., Luu., Phan. (2014, April). Iontophoretic Conditioning of the Electrode to Skin Contacts. In *Electrical Impedance Tomography Conference Series*. (Submitted to Editor)

POSTERS:

- Song, J., Turovets, S., **Govyadinov, P**., Morgan, K., Davey, C., Luu, P., ... & Larson-Prior, L. Accurate Pediatric Head Models for EEG Source Localization.
- Turovets, S., Ozog, D., **Govyadinov, P**., Salman, A., Li, K., Malony., A & Tucker, D., Use of bounded EIT for in vivo conductivity estimates in EEG source localization.

PATENTS:

- Turovets, S., Tucker, D., **Govyadinov, P**., Method for controlling skin impedance to facilitate encephalography and transcranial stimulation. Patent Pending.

AUTHORED PRESENTATIONS:

- The MREIT/EEG Phantom Experiment (Kyung Hee University, Yongin, Korea, 12/10)
- Effects of Capacitance Variation on a Sine Wave of a DC/AC Inverter(Crescent Valley High School, 2005)

LANGUAGES:

Russian   **Fluent** in reading, writing and speaking.
English   **Fluent** in reading, writing and speaking.

PROGRAMMING SKILLS:.

- **MatLab**
- **SQL**
- **C++**
- **Cuda**
- **Wolfram Mathematica**
- **Java**
- **Python**
- **HTML/XML**
- **Ocaml**

COMPUTER AND SOFTWARE KNOWLEDGE:

- **Windows**, **Apple OS,** and **LINUX** operating platforms.
- **OpenMP** Parallel API.
- Various **MPI** libraries (OpenMPI, MPICH I-II)
- **Cuda** gpu acceleration.
- **LaPACK** linear algebra libraries.
- **Photoshop** graphics software.
- **Visualization Toolkit (VTK)** for large data visualization.
- **Network Programming** with UDP and TCP protocols.
- **MS-Office family**.

TECHNICAL SKILLS:

- Eight years electronics experience.
  - Robotics.
  - Digital and Analog Electronics.
- Statistical Analysis of large data, including simulation validation of experimental results.
- Use of Geosource Software for dipole localization and brain segmentation
- Use of Netstation Software for data analysis.

References

Available Upon Request