Peter Whidden

www.peterwhidden.com
peter@bitsee.ai
TEL: +1 (360) 941-4363

EDUCATION

2015 – 2019 **B.S. in Astrophysics**
UNIVERSITY OF WASHINGTON – Seattle, WA
Focus Areas: High Performance Computing, Computer Graphics

WORK EXPERIENCE

2018 – Present **Bitsee Inc.** Seattle, WA
SOFTWARE ENGINEER

- Helped with designing the high performance video search framework.
- Working on improving the structure of the forward-pass compute pipeline.

2017 – Present **UW Institute of Data Intensive Research in Astrophysics & Cosmology** Seattle, WA
GPU COMPUTING RESEARCH

- Designed and implemented search algorithms for Kuiper Belt Planets, Asteroids and Comets.
- Implemented GPU based image processing pipeline to analyze terabytes of telescope data.
- Used CUDA to achieve a $600\times$ speedup over previous approaches.

Spring 2016 **UW N-Body Simulations Research Group** Seattle, WA
PARTICLE SIMULATION OPTIMIZATION

- Optimized and tested code on University of Texas' Stampede Supercomputer.
- Worked on the CHANGA N-body and fluid dynamics simulation software.
- Vectorized gravitational force code to take advantage of 512-bit SIMD instructions on the Intel Xeon Phi MIC processor.

Summer 2016 **CERN** Seattle, WA
DATA VISUALIZATION TOOLS

- Google funded Summer of Code program on interactive features for CERN's JSRoot data science framework.
- Used WebGL and three.js to visualize particle accelerator models and data.
- Increased rendering performance by $5\times$ and built an interface for viewing complex 3D models with millions of components.

SOFTWARE SKILLS

- **Languages:** C++, Python, Javascript, C, Java, Haskell
- **Libraries/Tools:** CUDA, OpenCL, OpenGL/WebGL, OpenMP, MPI, OpenCV, TensorFlow
- **OS:** Linux, Windows, MacOS

CO-CURRICULAR ACTIVITIES

- Founder & President of UW student club for Computer Graphics
- Contributor to three.js – a 3D graphics library used by millions of users.
- Interactive real-time GPU based nonlinear ray tracing library