

# SFWI

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## Copyright statements

This project uses **OpenMPI** for distributed-memory parallelism via MPI. OpenMPI is an open-source implementation of the Message Passing Interface, licensed under the New BSD License.

This project uses the **NVIDIA CUDA Toolkit** for GPU programming. CUDA is provided by NVIDIA under the NVIDIA Software License Agreement.

This project uses **seggy.h** from the open-source Seismic Unix (SU) package developed by the Colorado School of Mines, which is released under a BSD-style license.

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## Project Structure

- **sfwi-stage1**: SFWI source code of stage1
  - **sfwi-stage2**: SFWI source code of stage2
  - **example-1**: Data of the first numerical example
  - **example-2**: Data of the second numerical example
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## Build Instructions

Before compiling, make sure you have the following:

- **CUDA Toolkit**
- **MPI**

### Compile

```
cd /SFWI/sfwi-stage1
make
cd /SFWI/sfwi-stage2
make
```

This produces the executable **SFWI1** and **SFWI2**.

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## Run Instructions

To run the program:

The commands to run the program are provided in the **run.sh** scripts located in **sfwi-stage1** and **sfwi-stage2**.

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