*This is the template the committee uses to decide if the student has passed or failed the qualifying exam. We expect the student to pass all of the project evaluation metrics.*

Qualifying Exam Project Date: 8/16/2017

Project Title: REM SLEEP STAGE IDENTIFICATION WITH WAVELET DECOMPOSITION AND ARTIFICIAL NEURAL NETWORK USING A SINGLE CHANNEL EEG

Name: Gabriel Toban

Advisor: Dr. Kong

Project Evaluation:

1. Can the student programming using tools beyond Matlab in their research?

*Yes. The student used python and pi-wavelets.*

1. Can the student apply suitable data structures and algorithms (usually numerical algorithms) to solve scientific problem?

*Yes. A combination of wavelets transformations and neural networks was used in the project.*

1. Does the student’s project directly connect to a scientific domain – not just computer science or mathematics?

*Yes. This was tightly coupled to sleep study data. This is a real world problem.*

1. Has the student connected their work to the scientific literature in their talk and their paper?

*Yes. There was an extensive literature search in the talk. The student demonstrated good knowledge of the background literature and the context of his research. More comparisions on the results would have been nice.*

1. Does this work build on previously published results in the literature?

*Yes – but it may need a bit more work before it is publishable. It would have been nice to see comparisions of the results to previous literature.*

1. Does the work involve a simulation or data intensive project?

*This was a data intensive project. It was a pilot for a larger study.*

1. Does the project follow the format of a standard scientific paper?

*Yes – there were some typos, but the overall format and structure was good.*

1. Is there any evidence of plagiarism or cheating in the project?

No.

Suggestions and other Comments:

*You need a bit more practice giving talks. You clearly knew the material, but it seemed like you got stuck in some of the jargon and details when explaining it. It seemed like you were reading the paper – don’t do that.*

*The black letters on dark blue backgrounds were difficult to read.*

*There were some minor formatting issues in the paper. This is not a big deal for the exam, of course.*

*We encourage the student to keep on working toward a publishable result.*

Committee Decision:

PASS