

THE UNIVERSITY OF ARIZONA
GRADUATE COLLEGE

As members of the Dissertation Committee, we certify that we have read the dissertation prepared by *Yuan-Lu Chen*, titled *Improving Neural Net Machine Translation Systems with Linguistic Information* and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy.

Michael Hammond Date: *25 May 2018*

Andrew Carnie Date: *25 May 2018*

Sandiway Fong Date: *25 May 2018*

Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copies of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

Dissertation Director: *Michael Hammond* Date: *25 May 2018*