

Intellectual Merit Criterion

Overall Assessment of Intellectual Merit

Excellent

Explanation to Applicant

The candidate has an impressive background, which includes multiple awards and scholarships. He had several internship opportunities in highly competitive programs and generated results that are well above the expectations from an undergraduate student, including the publication of one paper in a peer-reviewed IEEE conference. The candidate is clearly a driven individual who will thrive in a graduate program. All these accomplishments are significantly more impressive considering that the candidate is a first-generation college student, an issue that, although underplayed by the candidate, drastically decreases his chances of academic success. Although his research theme needs some refinement, the candidate does have the potential to advance knowledge significantly in the proposed topics.

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Excellent

Explanation to Applicant

The candidate is clearly concerned with his impact on society. From his previous experiences in a congressional committee to his research topic focused on electrification in Kenya and his goal to serve in the United Nations, the candidate demonstrates that his pursuit of a graduate degree is not simply an opportunity to advance his career.

Summary Comments

Mr. O'Brien is a focused and hard-working student who has been dedicated to building a strong CV while addressing issues of societal importance. His research topic has potential and with proper mentoring may have significant impact.

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Explanation to Applicant

The applicant has strong research record in the proposed area and has also had international research experience.

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Excellent

Explanation to Applicant

The applicant's work on using ML and NLP to determine power meter deployment in rural regions has the potential of benefitting the rural community.

Summary Comments

The applicant has demonstrated strong motivation and expertise on research and has proven to engage in extracurricular activities that advance wellness of international and rural communities. Letter writers have given high marks on the applicant's

research and academic preparation.

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Explanation to Applicant

Mr. O'Brien has been the recipient of numerous scholarships and awards, and has attended workshops and conferences such as the NSF-sponsored XSEDE 2015. He has participated in REUs, including one at Berkeley, and has actively sought out opportunities to supplement the opportunities available to him. His projects demonstrate creativity and resourcefulness. His letter writers speak highly of him and attest to his ability to pursue graduate studies.

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Excellent

Explanation to Applicant

Mr. O'Brien has diverse experience beyond the lab, with a semester abroad in Peru, where he volunteered as a tech consultant, and participation in a peer-to-peer tutoring program for students from underrepresented groups. He served as a project analyst for the U.S House of Representatives. His overall goal is to use ML to understand and address the needs of emerging regions (using electrification in Kenya as a case study for his dissertation).

Summary Comments

Mr. O'Brien's academic and volunteer activities suggest that he will have a promising career carrying out work that will make both intellectual and societal contributions.