AHMED ALMAGHASILAH

Orono, ME • ahmed.almaghasilah@maine.edu • (207) - 385 - 3266

EDUCATION

University of Maine, Orono, ME   June. 2016 – May 2018
- **M.S**. in Electrical Engineering with a focus in Wireless and Communication
- *Thesis:* Wireless Sensor System for Mild Cognitive Impairment Diagnosis

University of Maine, Orono, ME, (Granted Full-ride Scholarship)   Jan 2013 – May 2016
- **B.S.** in Electrical Engineering and a minor in Mathematics

WORK EXPERIENCE

Yeast Cell Modeling – Molecular & Biomedical Depart | Research Assistant   *Orono, ME Aug. 2018 – Present*
- Developing gradient tracking model for the G-Protein Coupled Receptor in the yeast
- Performing Monte Carlo estimation to search for parameters fit the experimental data
- Training semantic segmentation network using Deep Learning to identify and separate cells in DIC images

CMe Mobile App (*Co-Founder***) |** Software Engineer   *Orono, ME   Oct 2018 – Present*
- Using Core Machine Learning 2 from Apple and smartphone's camera to help count the hand raising for fast voting (*will be launched by Fall*)

SummUpp App (*Personal Project***) |** Software Engineer   *Orono, ME   June 2017 – Present*
- Used NodeJS, Firebase to develop a rental negotiation iOS application to negotiate summer subleases

Interphase Energy | Software Engineering Intern   *Portland, ME   June 2017 – Aug. 2017*
- Developed machine learning algorithms using TensorFlow in Python to predict the busy hours for storing electrical and thermal energy to lower the demand charge

Tweezer System (*Personal Project***) |** Hardware Engineer   *Orono, ME   May 2016 – Nov. 2017*
- Built an affordable and size-efficient system of 3D printers feeds with automatic filaments, with additional capability of one extra filament

NASA grant – Electrical & Computer Depart | Research Assistant   *Orono, ME   May 2016 – Aug. 2016*
- Analyzed TI accelerometer data for Crew Health Monitoring
- Created an alternative method for measuring respiration using a vest-embedded with pressure sensors

SleepMove – Psychology & Electrical Depart | Research Assistant   *Orono, ME   June 2016 – May 2018*
Diagnosing Alzheimer's diseases and mild cognitive impairment through sleep parameters.
- Developed automated optimized algorithms of finding sleep parameters using MATLAB
- Applied and developed novel computation methods on high volume of raw sleep data
- Performed signal processing using filters, FFT, and IFFT to separate respiration and movement signals
- Identified sleep-wake periods using statistical methods

Smart Module Desalination - Mechanical Depart | Electrical Engineer   Orono, ME   *Jan. 2016 – May 2016*
- Troubleshoot electronic hardwares and supervised project milestone
- Built DC-DC converter

User Controllable Platform (*Senior Capstone***) |** Electrical Engineer   Orono, ME   *Jun. 2015 – May 2016*
UCP is a platform with four wheels, wirelessly controlled and powered with a 12V SLA battery.
- Designed and built H-bridge, DC-DC and AC-DC converters
- Simulated H-bridge, DC-DC and AC-DC converters in Micro-Cap
- Designed PCB for H-bridge and DC-DC converters via Altium Designer

AWARDS, SKILLS, INTERESTS

- **Awards:**
  - Outstanding Graduating International Student in the College of Engineering for 2016
  - Innovate for Maine Fellowship 2017
  - Chair of IEEE Young Professionals
  - Teaching Assistantship Awards for Fall 2016, 2017 and Spring 2018
  - Researcher Award at University of Maine Student Symposium April 2017
  - Awarded a full scholarship from King Abdullah Scholarship Program to study abroad
  - Member of Math's honor society at University of Maine
  - Member of IEEE-HKN honor society at University of Maine
  - Invited to attend the Envision Global Forum on Engineering and Technology Spring 2014
  - Dean's List in Spring and Fall 2013, and Fall 2014

- **Programming Languages**: Python, C/C++, Assembly, R, Swift, ReactJs/React Native, Java
- **Technologies**: TensorFlow (ML), Git, Docker, Altium, Eagle, SolidWorks, VCell
  MATLAB/Octave, , Raspberry Pi, Arduino, Photon, Micro-Cap, Firebase , Machine Learning
- **Languages:** Fluent in English and Arabic (native speaker).
- **Projects:** WordPress (ahmedalmaghasilah.wordpress.com)

Publications and Presentations

- **Publications & Abstracts**

  - A. Almaghasilah, K. Daigle, C. Gilbert, C. Singer, M. J. Hayes, and A. Abedi "Actigraphic Sleep-Wake Determination Using Noninvasive Under the Sheet Sensors," International Psychogeriatrics Association, Hoboken, New Jersey, Sept 2018.

  - K. Daigle, A. Almaghasilah, T. Delp, C. Gilbert, E. Sullinski, J. Aronis, A. Bouchard, C. Singer, A. Abedi, and M. J. Hayes "Overnight Memory Consolidation and Sleep Quality in MCI with Under the Sheets Sensor Device," International Psychogeriatrics Association, Hoboken, New Jersey, Sept 2018.

  - K. Daigle, A. Almaghasilah, T. Delp, C. Gilbert, A. Bouchard, C. Singer, A. Abedi, and M.J. Hayes "Sleep Quality and Memory in Mild Cognitive Impairment (MCI)," Associated Professional Sleep Societies, Baltimore, Maryland, June 2018.

  - A. Almaghasilah, K. Daigle, C. Gilbert, E. Sulinski, J. Aronis, A. Bouchard, T. Delp, C. Singer 1,5 , A. Abedi, and M.J. Hayes "Sleep Monitoring in Mild Cognitive Impairment Using Noninvasive, Under the Sheet Sensors," Associated Professional Sleep Societies, Baltimore, Maryland, June 2018.

  - C. Gilbert, A. Almaghasilah, K. Daigle, E. Sulinski, A. Bouchard, T. Delp, A. Abedi, and M.J.Hayes "Movement and Respiration Events During Sleep andTheir Relation to Cognitive Decline in Mild Cognitive Impairment," Maine Chapter of the Society for Neuroscience, Biddeford, Maine, Nov 2017.

• S. Veilleux, A. Almaghasilah, A. Abedi, D. Wilkerson "Stochastic Modelling of Wireless Energy Transfer" the 5th Annual IEEE International Conference on Wireless for Space and Extreme Environments, Concordia University, Montreal, Canada, Oct 2017.

• S. Veilleux, K. Bundy, A. Almaghasilah, A. Abedi "Transmission Scheduling for Wireless Energy Transfer with Dual Data-Energy Channel Models" 2018 6th Annual IEEE International Conference on Wireless for Space and Extreme Environments (WiSEE), University of Alabama, Huntsville, USA, Dec 2018.

• A Almaghasilah, K Daigle, C Gilbert, E Sulinski, J Aronis, A Bouchard, T Delp, C Singer, A Abedi, M Hayes "1014 Sleep Monitoring in Mild Cognitive Impairment Using Noninvasive, Under the Sheet Sensors" SLEEP, April 27th 2018

• **Presentations**
  • User Controllable Platform – Senior Capstone
  • Stochastic Modeling of Wireless Energy Transfer - Electrical and Computer Department
  • Mild Cognitive Impairment Detection Using a Sleep Monitoring Device - UMaine Student Symposium 2017
  • Mild Cognitive Impairment Detection Using a Sleep Monitoring Device - UMaine Student Symposium 2018
  • SleepMove - Aging & Technology R&D Showcase
  • Wireless Sensor System For Mild Cognitive Impairment Diagnosis – Electrical and Computer Department
  • Negative and Positive Feedback in Yeast Cells – Biomedical Department