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EDUCATION

Master of Science in Engineering (thesis-based), Mechanical Engineering
Johns Hopkins University, Baltimore, MD
Cumulative GPA 3.76/4.00

May 2018 (expected)

Bachelor of Engineering, Mechanical Engineering
Institut Teknologi Bandung, West Java, Indonesia
Thesis: Design and Fabrication of an Affordable Transfemoral Prosthesis

May 2015

RESEARCH EXPERIENCE

Bioinspired Material and Mechanical System Lab
Hopkins Extreme Materials Insitute
Johns Hopkins University, Baltimore, MD

Kang Lab - Graduate Research Assistant

August 2016 - Now

PI: Sung Hoon Kang

- Worked with a team of clinicians and engineers developing an FDA-compliant pediatric prosthetic heart conduit capable of controlled self-expansion.
- Laid foundation, designed, and fabricated iterations of conduit.
- Characterization (tension test, SEM, DSC, DMA, microtome.) and additive fabrication of novel conduit designs.

Biomolecular Mechanics and Nanotechnology Lab
Biodesign Institute
Arizona State University, Tempe, AZ

Hariadi Lab - Visiting Research Scholar

June 2017 - August 2017

PI: Rizal Fajar Hariadi

- Developed a microtubule analog using dynamic DNA nanotechnology by coupling polymerization and fuel consumption with *de novo* DNA nanostructure design.
- Top summer researcher.
- Publication under preparation.

Nanostructural Engineering Laboratory
Osaka University, Osaka, Japan

Hirahara Lab - Visiting Research Scholar

January 2013 - August 2013

PI: Kaori Hirahara

- Full-time semester long independent research, acquired grade of A+. Topic: Generation of micro/nano-bubbles by water electrolysis using carbon nanotube-resin composite film as electrode.
- Fully funded by JASSO under FrontierLab@OsakaU scheme.
- Result presented at MRS Fall Meeting, Boston, 2014.

Institut Teknologi Bandung, West Java, Indonesia

Biomechanics Lab - Research Assistant

2013 - 2015

PI: Andi Isra Mahyuddin

- Designed and fabricated a leg prosthetic prototype for poverty stricken people in Indonesia based on optical gait-analysis and market needs. Final design costs less than 1/10 of prosthesis available on Indonesian market and spun-off into a startup.

Biomechanics Lab - Teaching Assistant

2013 - 2015

- Responsible for tutoring, homeworks, and assisting on exams on an undergraduate course (Mechanics of Materials).

PUBLICATIONS

- B. Emilio, K. Hirahara, H. Nishimura (2014, December). Generation of Micro/Nano Bubbles by Water Electrolysis Using Carbon Nanotubes/Resin Composite Film as the Electrode. Paper presented at Materials Research Society Fall Meeting 2014: Symposium MM, Boston. Cambridge: Cambridge University Press
- B. Emilio, et al (2015, November). Design and Fabrication of an Affordable Transfemoral Prosthetic Leg. Paper presented at RCMME 2015, Yogyakarta. Trans Tech Publication.

TEACHING AND OUTREACH

Johns Hopkins University

Materials Selection: Biomaterials - Guest Lecturer

November 2017

- Invited by Prof. Sung Hoon Kang as a guest lecturer covering biomaterials for Materials Selection undergraduate junior level class.

Johns Hopkins University

Center for Talented Youth Summer Program - Mentor

May 2017

- Introduced STEM research and laboratories to high-potential middle school students.

PROFESSIONAL, LEADERSHIP, EXTRACURRICULARS

Creador

Research Analyst Intern

April 2016 - June 2016

- Creador is a boutique private equity firm with 1 billion USD AUM.
- Conducted primary market research for Nipress auto battery and benchmarked NBFIs in Malaysia and Indonesia in support of a prospective deal.

KINETIK

CTO

January 2015 - August 2016

- Medical device startup focused in affordable solutions with maximum impact. Seed funded 50000 USD (non-dilutive).
- Responsible for product and relationship development. Initiated collaboration with 2 prominent NGOs and developed 2 mainline product.
- Covered by national media and on progress towards mass manufacture.

ITB Outdoor Adventures Club

Member

2010-2015

- Co-managed a team of +-40 on a search and rescue operation of a missing hiker
- Led a team of +-30 on an outdoors survival course

Chevron University Partnership Program

Drilling Engineer - Summer Intern

June 2013 - August 2013

- Reduced accidents and violations by creating and analyzing a database for the Reliability and Compliance division. Responsible for preliminary feasibility analysis of drill pipe substitution for production tubing, saving 30% of drilling costs.
- Awarded top intern.

AWARDS AND SCHOLARSHIPS

- **Indonesian Endowment Fund for Education Scholarship:** Full-ride scholarship to pursue graduate degree at any chosen university.
- **ITB Academic Achievement Scholarship:** Scholarship covering undergraduate tuition.
- **JASSO Scholarship:** Full-ride scholarship for semester-long research exchange at Osaka University.
- **Research and Technology Ministry Startup Fund:** 50k USD non-dilutive startup funding.
- **Indonesian Young Thought-Leader on the Environment 2015:** Granted by World Resources Institute.

- **Top 3 National Innovation Contest at Institut Teknologi Bandung:** Engineering design innovation contest.

SKILLS AND TEST SCORES

- **Standardized Test Scores:** GRE: 166V(97%), 167Q(95%), TOEFL: 113.
- **Coding Skills:** Python (+5000, passed Google Foobar), Matlab (+5000), Arduino IDE, \LaTeX
- **Other Skills:** CAD (Inventor, Solidworks, Slicers), FEM (ANSYS, ABAQUS, LISA)
- **Languages:** English (Fluent/Bilingual), Indonesian (Native)