

Sangin Kim

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March 29, 2024

Dear Professor XXX,

I am reaching out to you concerning the position of Ph.D. for XXXX laboratory. It is a great pleasure for me to apply for Ph.D. position for Bioengineering research at XXX University. I've submitted this letter of application. With my experiences I believe I am qualified to meet the requirement of the project as a Ph.D. candidate.

To briefly introduce myself, I've studied electrical electronics engineering at Chung-Ang University, Seoul, KR, and graduated as Bachelor of Science on February 2022. I am currently a student of Master degree in electrical electronics engineering at Yonsei University in Seoul, KR, studying bioengineering and fully expect to complete my degree by August 2024. I have a long-standing interest in studying Wearable and Stretchable bioelectronics for long-term healthcare monitoring. I have studied and experienced required for bioengineering research to successfully perform my responsibilities as Ph.D.

During Master degree, it was opportunity for me to enlarge my knowledge in bioengineering and wearable devices. I was also involved into three major project: **1)** Harvesting energy to power electric devices using TENG (Triboelectric Nanogenerator), **2)** Wearable device in health monitoring, **3)** Stretchable interconnects using liquid metal for stretchable electronics. These projects provided me the opportunity to understand the overall construction and operation of various types of biosensor devices. In addition, not limited in bioengineering, by using my experience of design analog front-end circuit, I also designed and supervised hardware design of various biosensors on each project.

I believe, with these research experience that I possess, pursuing a Ph.D. will add more to it and expose me more to areas where bioengineering knowledge are relevant and in addition, put into practice what I have learnt so far. I am confident that I can use my passion and responsibility to succeed in project during Ph.D degree.

I would welcome the opportunity to discuss my application with you and look forward to hearing from you.

Yours Sincerely,
Sangin Kim

Sangin Kim

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Education

Yonsei University, Seoul, KR

Fall, 2024

- Master of Electrical Electronics Engineering
- GPA: 3.8/4.3

Chung-Ang University (CAU), Seoul, KR

2022

- Bachelor of Electrical Electronics Engineering
- GPA: 3.8/4.5

Experience

Yonsei University, Seoul, KR

Fall, 2023

Teaching Assistant, “Fundamentals of Semiconductors” & “Capstone Design”

- Prepared “Fundamentals of Semiconductors” lectures, helped students with term paper, and graded homework.
- Provided support to students in “Capstone Design” courses in the field of bioelectronics.

Seoul National University, Seoul, KR

Spring, 2022

Research Assistant

- Designed analog front-end circuit of Positron Emission Tomography (PET) for diagnosing cancer.

PMS Co. (Power Master Semiconductor Company), Gyeonggi-do, KR

Spring, 2021

Intern

- Analyzed designed circuits and tested newly designed and produced power semiconductors.

Relevant Skills

- Hardware Design: LT spice, Pspice and Altium design
- Computer: Microsoft Word, Excel, PowerPoint, MATLAB and basic C++
- Graphic design: Photoshop, Illustrator, Lightroom, Premier Pro and Photography

Leadership

CAU Band “Muse” club, Seoul KR

2018-2021

VP of Community Relations, Treasurer

- Organized and facilitated various club events and hosted band performances.

CAU Photograph club “Finders Family”, Seoul, KR

2019-2020

Community Relations

- Provided guidance on post-production techniques to enhance members' photographic abilities.

Private Educational Institute, Seoul, KR

2018-2020

Mathematics Teacher

- Educated high school students in Seoul, Korea, including all aspects of classroom management, including lesson planning, instructional delivery, and academic support.
- Topics included Algebra I & II, Functions & Calculus, Geometry, Probability & Statistics & Discrete Mathematics.

Publications

S. Kim et al., “Sonicated Highly Adhesive LM paste for Stretchable Electronics”, in preparation.

S. Kim, **S. Kim** et al., “Sintering-free Liquid Metal Ink for Stretchable Printed Electronics”, in preparation.

T. Kim, **S. Kim** et al., (2024) “Lubricant-Infused Polymeric Interfaces: A Stretchable and Anti-Fouling Surface for Implantable Biomaterials”, Advanced Functional Materials

Conferences

S. Kim et al., (2023). “Scalable Manufacturing of Stretchable Electronic Devices based Biphasic Liquid Metal Stamp”.

Abstract and Poster at IEEE nanomed conference 2023, Okinawa, JP (**Selected as Best Poster Competition**)