Neuroengineering Lunch & Learn
Focus on Internships

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Students' Questions about Internships

- Are internships necessary for graduate students? If so, in what cases?
- At what point during the PhD studies should we start looking for one?
- Are there research internships vs industry internships? What resources does UC Davis have (i.e. is there a list of openings)?
- If I have little experience, how can I get an internship in this field? Or what kind of online courses and skills do you recommend to better prepare for working in the neurotech field.

Internship vs Externship

An internship is geared towards giving the intern a hands-on experience through the completion of tasks and responsibilities, whereas an externship is focused on giving a student or aspiring professional a deeper understanding of the ins and outs of a specific industry.

While interns complete regular job tasks, externs do not. Rather, externs shadow one or more professionals to learn about their job.

Why Pursue an Internship?

1. **Broadening Expertise**. Apply theoretical knowledge in practical scenarios, thus enhancing your skills.
2. **Networking.** Internships connect you with professionals, researchers, and fellow students. Can lead to mentorship, job referrals, and collaborative opportunities.
3. **Hands-On Experience.** Makes you more competitive in the job market.
4. **Exploring Career Paths.** Help you explore different fields, aiding in career decision-making.
5. **Resume Boost.** Having internships on your resume demonstrates practical skills and commitment to your field.

Should Students Interested in an Academic Path Pursue Internships?

Plenty of value relative to the investment:

1. **Research Skills**: Internships hone your research skills, which are crucial for academic pursuits.
2. **Networking**: Academia thrives on collaboration. Networking during internships can lead to research partnerships.
3. **Diverse Perspectives**: Exposure to industry or government work provides diverse perspectives, enriching your academic journey.
4. **Translational Research**: Bridging academia and real-world applications benefits both realms.

Ex. of Internships

- Accenture Labs – incubate new concepts and apply the latest technologies to deliver breakthrough solutions for business and society. Technology Innovation Summer R&D Specialist – Labs Visiting Researcher
- LLNL and other federal labs. Science and Engineering Internships
- FDA and regulatory science organizations
- Science communications organizations, including Science, Nature, etc
- Science museums – programming, outreach, etc
- RAND Corporation – nonprofit global policy think tank, research institute, and public sector consulting firm. Graduate Student Summer Associate Program
- Technology transfer, commercialization, startups, university spinoffs

Ex: Internships in Industry

- **Beacon Biosignals** is seeking an Algorithm engineer intern**!** You'll work alongside fellow data scientists, neuroscientists, engineers, and clinicians as part of Beacon's Analytics and Machine Learning domain to help us improve our machine and deep learning models.
- **Nave Security LLC** - As a Neural Security Research Intern you will be an integral part of our research team, contributing to cutting-edge research projects in the field of neural data security. The primary objective is to research neural security as it relates to the brain-computer interface modulation/ acquisition cycle, neural impact, and other topics.
- **Meta** – Research Intern, Eye Tracking Applications Research (PhD)
- **Neuralink** - Surgery Operations Engineer Intern
- **NVIDIA** – PhD Research Intern, Generalist Embodied Agents Research, Summer 2024

Ex: PhD Intern - Technology Commercialization Research Internship at PNNP

Recruitment began on January 30, 2024, Expires March 1, 2024

The Pacific Northwest National Laboratory (PNNL) is seeking **graduate-level interns to identify and develop commercialization strategies for innovative technologies that benefit society**. This role will support the Laboratory's Office of Research and Technology Applications in transferring lab-developed technologies from lab to market.

The intern will report directly to a Senior Commercialization Manager and will conduct a broad range of commercialization and industry collaboration support activities, including: critical emerging technology evaluations, patent portfolio assessments, market opportunities and landscape analysis, and research and data analytics projects. Interns are encouraged to identify current PhD research plans that may be enhanced by or can be pursued in parallel with the objectives of this internship.

https://careers.pnnl.gov/jobs/8504?lang=en-us&iis=Job+Board&iisn=LinkedIn

Best Ways to Pursue Internship Opportunities

- **Research University Programs**: Many universities offer research-based internships within their departments. Also tech transfer offices, marketing and communications offices, etc.
- **Industry Connections**: Attend conferences, workshops, and industry events. Network with professionals and inquire about internship opportunities.
- **Online Platforms**: Websites like **Pathways to Science** and **Intern Abroad HQ** list STEM internships and placements.
- **Government Agencies**: Explore opportunities with agencies like the Department of Energy (DOE).
- **Private Companies and Research Institutes**: Look for companies or institutes aligned with your interests. Many offer internships for graduate students.

UC Davis Internship and Career Center & Other Resources

- ICC and CNEAM websites; Handshake platform
- Resources: career fairs, advising, workshops, recruiting events
- Self-develop an internship, see video
- NeurotechX https://neurotechx.com/find-a-job/

Services for International Students and Scholars

- A part of UC Davis Global Affairs
- https://siss.ucdavis.edu/student-employment#employmentworkshops
- Online workshops
  - Curricular Practical Training CPT for F-1 students
  - Optional Practical Training OPT for F-1 students
  - STEM OPT Extension for F-1 students

UCD Graduate Student Career Development Assistance Award (ICC)

- UC Davis has an unpaid internship fund for UC Davis graduate students: https://icc.ucdavis.edu/mpp/non-academic/Graduate-Student-Career-Development-Assistance-Award
- An award available to current UC Davis graduate students who completed an unpaid internship in support of their career development goals. Award is $500 for an internship during the academic year and $1,000 for a summer internship. In-progress and remote internships qualify.

Guest speaker: Manaswi Saha, PhD, Accenture Labs

Manaswi Saha, PhD is a Technology R&D Associate Principal (Researcher) at Accenture Labs. She utilizes her background in Computer Science and Human Computer Interaction (HCI) to build research agendas; execute them via building technology prototypes, running experiments, and conducting user studies; and communicating them via academic publications, talks, blogs, and others. Her current research is in exploring technology towards the augmented human vision: facilitating cross-disciplinary collaborations using LLMs and using audio AR technology for physical task guidance.

She received a MS & PhD in Computer Science and Engineering from University of Washington in Seattle, where her dissertation was in urban accessibility, at the intersection of HCI, urban informatics, accessibility, data visualization, and urban planning.

A copy of the slides is available here to UC Davis affiliates.

Guest speaker: Elizabeth Wheeler, PhD, Lawrence Livermore National Lab

Elizabeth Wheeler, PhD is Deputy Division Leader in the Materials Engineering Division and Acting Director of the Center for Bioengineering. She has a PhD in Chemical Engineering and began her career at LLNL as a post-doctoral researcher working on NIF optics prior to joining the Center for Micro and Nano Technology. The majority of her career has focused on integrating biology and engineering to yield new platforms or flexible devices for Homeland Security or medical applications.

Her current research interests are focused on integrating biology onto novel engineering platforms. She has worked on numerous multidisciplinary teams that have field tested technology developed at LLNL. She won many awards, including an R&D 100 award for her contributions to DNATrax (DNA Tagged Reagents for Aerosol Experiments) and was honored as Oppenheimer Science and Energy Leadership Program Fellow.

Internships offer a blend of practical experience, networking, and skill development. Whether you're aiming for industry, academia, or other career paths, internships can significantly enhance your professional journey.