

AP CAPSTONE Requests for Expert Advisers

Dear PVPUSD Community:

Each year, juniors and seniors from PVHS and PVPHS take Advanced Placement (AP) Research, a multi-disciplinary class that is the second of the two-year AP Capstone course. As part of this course, we conduct thorough, original independent research culminating in the writing of our own college-level academic papers and presenting our work to a panel audience.

To help us facilitate this research, we are allowed to be in contact with Expert Advisors – faculty members, academics, those of higher education, and the like. Within the larger community of our school district is a wide network of such professionals that we'd be humbled and grateful to call our Expert Advisors.

Each student has compiled a list of people they'd like to work with. Whether it's getting advice, an interview, access to specific resources, or mentorship, your help is greatly appreciated. Beside each student's name is their preferred method of contact. Because some of our research is dependent on access to resources, please reach out to us by **NOVEMBER 6**.

Also attached is the College Board's guidelines for the role of Expert Advisers.

Please review the following. *Each topic makes varied (and some overlapping) requests.*

If you can help, please use this [FORM](#) to submit your contact information. THANK YOU!

-
- Sarah
Researching online social justice and political movements, specifically how social media users disseminate or repost information over time after major social events (ie: the death of George Floyd and the surge in online activism surrounding the Black Lives Matter movement following his death), hoping to ***examine how different factors increase or decrease the longevity of an online movement.***
 - **Social media manager or strategist** - could be from a brand, NGO, non-profit - to provide knowledge about audience engagement
 - **Academics** who are knowledgeable about political and social justice activism to provide feedback on my research question and methods of research, as well as insight on my topic of research
 - Political and social justice **activists and advocates** - those with experience in online organizing is preferred - to provide insight on my topic of research
 - Experts in **data analysis**, statisticians, researchers - to provide feedback on my methods of research

- Lucas

Researching the way in which prosecutors are appointed and how this affects the way they prosecute.

- Criminal defense lawyer
- Someone who has worked in a DA's office
- Someone familiar with the way district attorneys are elected
- Someone connected with the Innocence Project

- Komaljit

Researching the effects of employing PTSD treatments to decrease the likelihood of dementia and/or other memory loss diseases in high-risk patients. I most likely will be doing secondary research surrounding this arena of neuroscience or something equally similar.

- **Neurologist** → Provide more insight into the specifics of the treatments used to help Dementia Patients or verify the accuracy of my study/ question. Possibly connect me to research that they have conducted or know of someone who has conducted something similar.
- **Behavioral and Developmental Neuroscience** → Provide concise details on how Dementia hinder's memory and what parts of the brain are triggered in stressful situations. Ethics of using said treatment and viability in the long term of actual treatment. Provide a professional opinion on actual study.
- Possibly a **researcher** who's working/ worked with memory loss diseases to provide a possible view into the world of how essentially this part of the brain works in terms of using such treatments.
- Anyone with data surrounding Dementia/memory loss, preferably hereditary or from stress-related incidents.
- Someone employed by Retirement Homes/ or specific care homes like Senior Sunrise with access to such resources.
- **The Veteran's** hospital connections- How these veterans are being taken care of. How many patients at a hospital have dementia.

- Kara

Researching women's underrepresentation in EMS careers and how stereotyping that comes hand in hand with that affects the desire to enter the career.

- Employers that work in EMS- help understand the process of employment for an EMS career
- Someone who studies women's underrepresentation in the workplace
- Any employee in EMS (preferably women) - ask is they have experienced stereotyping & how their experience in the workplace is/was.

- Aksh

Creating rapid, low-cost, machine learning based COVID-19 diagnostics using X-ray and CT images. As of now, I have currently engineered models that can go from taking input chest X-ray/CT images and diagnosing a patient as having or not having COVID-19 with over 99.5% accuracy. I have trained 25 separate models, evaluated their efficacy in classification, and am currently working upon designing custom Neural Network Architectures for increasing the generalizability of these systems to hospitals. I would sincerely appreciate the help of:-

- **Radiologist**. → Someone who could evaluate what my machine learning models are picking up on and identify whether the right features are being used for diagnosis. Someone, I could work with to identify pertinent features for diagnosis: Ground Glass Opacities, Paved patterns along lung periphery, etc.
- **App developer** → Someone who could help develop a mobile app capable of imaging and running the machine learning model for diagnosis. I am already familiar with converting the machine learning code to work in a format suitable for mobile phones but could use help in setting up the app architecture itself.
- **Hospital managers/medical businesses** → Someone who would consider deploying these models professionally, or at least, works in the medical field and could guide towards what factors would be most sought after in case such a model were to be deployed AND/OR Someone who could offer invaluable insight into the ethics and receptiveness of Machine Learning by the medical community in 2020.
- **Any business pitcher/advertiser** → Someone who could identify most optimal means of contacting hospitals/medical groups for adopting these models. Essentially someone to help “sell” these results, although everything will be offered as a free service.

- Saul

The impact of debate participation on students. The contributing factors behind debate team preparation and performance.

- A **statistician**/someone who is professional and really knows surveying and analyzing the data of surveys well
- A **debate coach** of some kind, or someone who is well acquainted with the debate community
- A (political?) **economist**, who is knowledgeable about economic disparities, especially/specifically focusing on its impact or relation to/on education/academics

Role of Expert Advisers in the Academic Paper

Should a student require such, they may engage in communication with one or more expert advisers. Expert advisers may be drawn from

- the faculty
- the community
- local or nonlocal businesses and industries
- higher education institutions

Expert advisers represent a resource for teachers and students in a variety of areas (i.e., expertise in specific disciplines, fields, or methods). Teachers must ensure students are transparent with any expert advisers about what they should and should not do.

AP Research: Role of Expert Advisers	
DO	DO NOT
Engage in conversation with guiding questions and provide general feedback to students regarding their choice of research questions/project goals, data- or information-collection methods, and analysis strategies.	Generate research questions/project goals for students. Provide unsolicited help (i.e., students must initiate conversations that call for expert adviser feedback, such as asking a question to which the expert adviser can then respond).
May hold work-in-progress meetings with students to ask questions, monitor, discuss, and provide guidance on progress.	Write, revise, amend, or correct anything that is part of, or contributes to, the final work submitted for assessment. Provide specific, directive feedback to individuals (expert advisers must not tell students what to do).
Suggest possible resources that can help students further their research (e.g., additional data bases, local expert advisers, library assistance) – so that students are not disadvantaged in their exploration.	Conduct research or provide specific sources, articles or evidence for students.
Help students with the mechanics of the research process (e.g., strategizing to find answers to questions or helping them understand how to access resources).	Provide unsolicited help (i.e., students must initiate conversations that call for expert adviser feedback, such as asking a question to which the expert adviser can then respond).
Provide general feedback to students about elements of their papers or presentations that need improvement. Direct the students to the areas of the rubrics where their work may need improvement.	Write, revise, amend, or correct student work (anything that is part of, or contributes to, the final work submitted for assessment). Provide or identify the exact questions a student will be asked prior to his or her defense (i.e., students should be prepared to answer every one of the oral defense questions that have already been provided to the students in advance).