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CHIA-SHI WANG

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[HTTPS://WWW.CHOA.ORG/MEDICAL-SERVICES/NEPHROLOGY/NEPHROLOGY-PROVIDERS?ID=E40C4E632C2E2EA5E963B3916E3254B25743EA1C](https://www.choa.org/medical-services/nephrology/nephrology-providers?id=E40C4E632C2E2EA5E963B3916E3254B25743EA1C)

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### **Required Skills:**

FHIR API and resource definitions, OAuth2, OpenID, HTML5/JSON, Project Management, Communications

### **Preferred Team Communications:**

TBD

### **Data Sources:**

### **Other Items:**

Project has timezone flexibility. Mentors and students will determine a good time for virtual meeting

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## **TRANSFORMING CHILDHOOD NEPHROTIC SYNDROME MANAGEMENT BY BUILDING A FHIR APP TO SEAMLESSLY COLLECT, ANALYZE, AND TRANSMIT HOME URINE TESTING RESULTS TO PROVIDERS**

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Childhood nephrotic syndrome is a chronic kidney disease characterized by relapses that cannot be predicted. It is one of the most common causes of chronic kidney disease in children. If not treated promptly and effectively, patients may experience complications such as body swelling, severe infections, acute kidney injury, and blood clots. Monitoring of this disease of high morbidity and cost involves patients checking their urine regularly and communicating with their providers. This is because each disease relapse is always characterized by heavy protein loss in the urine, which can be detected prior to the development of noticeable symptoms. When providers are notified in a timely manner, the disease treatments can be adjusted appropriately. We are completing the development of a mobile app that can use the cameras of iPhones to interpret and capture urine protein test strip results. We plan to further develop this app into a FHIR app for seamless transmission of this clinically important patient data to providers in hopes of improving health outcomes.

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### **PROJECT OBJECTIVES**

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Transform an existing self-contained mobile health app that captures patient health data into a FHIR app.

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### **SUCCESSFUL PROJECT**

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FHIR app with the following capabilities:

1. Integration capabilities with Epic EHR
2. Guidance to nursing/care coordinators for patient monitoring and education
3. Guidance to nursing/care coordinators for notifying treating physicians

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**Intellectual Property: TBD**