

**Client:** Joel M. Bach (jmbach@mines.edu)

**The Project:** Development of a mobile app for analysis of head posture during cycling. We are partnering with the U.S. Olympic Committee and Samsung to develop a system for monitoring head posture during cycling and to provide feedback to the rider if their head moves out of the ideal aerodynamic posture during a race. The hardware is designed but currently requires a PC. We're monitoring position relative to the bike frame using accelerometers/gyros and providing feedback using haptic devices. We need a mobile app that will allow the coach to set the desired posture, monitor position during training/racing, and analyze, display, and upload relevant data. We're looking for a team to develop that app.

**Desired skills/experience:** Mobile device app development. Android is required, though a cross-platform solution would be ideal. Understanding of Bluetooth communications and relevant coding an added bonus. Strong software engineering skills are required (the code must be adaptable and maintainable by Samsung).

**Location:** On campus